

NCTM 2009 Annual Meeting & Exposition

Washington, D.C. • April 22–25, 2009

Equity:
All Means ALL

See Valuable
COUPONS
in the back
of the program



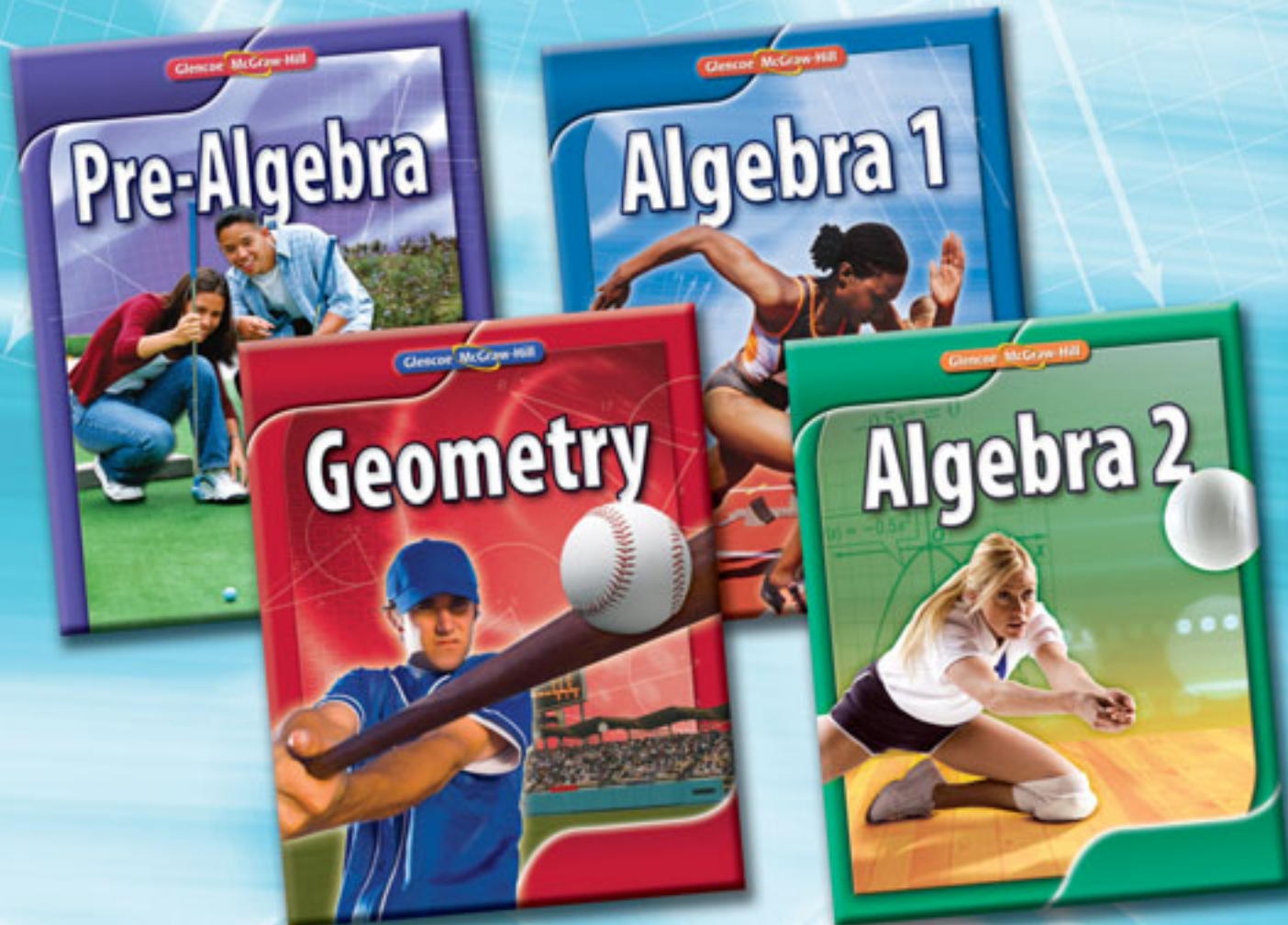
NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

Program Book

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Building Brighter Futures

2009 ANNUAL MEETING *and* EXPOSITION

Washington, D.C. | April 22–25, 2009 | *Equity: All Means ALL*

Hosts

District of Columbia Council of Teachers of Mathematics (DCCTM)
Maryland Council of Teachers of Mathematics (MCTM)
Virginia Council of Teachers of Mathematics (VCTM)

Meeting Facilities

All Annual Meeting presentations will be held at:
Walter E. Washington Convention Center
Grand Hyatt Washington
Renaissance Washington, D.C., Hotel
See pages 206–09 for floor plans.

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Cherry Blossom Thoms; © Jake McGuire

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NCTM reserves the right to change speakers, change facilities, or modify program content.

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

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

Welcome to Washington, D.C.!

Welcome to the largest, most exciting annual gathering of mathematics educators in the world. The 87th Annual Meeting and Exposition of the National Council of Teachers of Mathematics brings together outstanding classroom teachers, mathematics educators, and mathematicians to share what they know and to exchange ideas in support of helping every student learn challenging mathematics. On behalf of the Board of Directors, Program and Local Arrangements committees, staff, and the many volunteers who have worked long hours to put together a spectacular set of opportunities for you, welcome to Washington, D.C.

Equity, the theme of the conference, provides just a glimpse of what the conference will offer. Our Program Committee has put together an exceptional group of presentations for you to explore and consider the complexities of teaching mathematics so that *all* students will learn. You will find presentations that challenge you to examine your own teaching, your connections

to your students and their community, and your perspectives on mathematics.

There is much more to the conference than the more than 825 presentations planned for your professional enrichment. Over the next three days, take advantage of the extraordinary opportunities you'll have to meet new colleagues and to form stimulating professional and personal relationships that can last a lifetime. To really experience Washington, make sure you visit the Mall, the Smithsonian, Capitol Hill, and the nearby Spy Museum and downtown area. Enjoy the local culture and cuisine, and get out and see the beautiful springtime blossoms. You may be surprised at how mathematical Washington is, in addition to being a vibrant hub for history, art, dining, and shopping.

Our hope is that after your Washington, D.C. experiences you will return to your classroom and colleagues brimming with new ideas and questions that will expand your thinking about the mathematics you teach and the students whose lives you influence every day.



Henry S. Kepner Jr.
*President, National Council
of Teachers of Mathematics
University of Wisconsin—
Milwaukee*



Deborah Donovan
*Program Chair
Educational Resources
Group
Lexington, South Carolina*



Michael Bolling
*Local Arrangements
Committee Cochair
Virginia Council of Teachers
of Mathematics*



Edward C. Nolan
*Local Arrangements
Committee Cochair
Maryland Council of
Teachers of Mathematics*



E. Marilyn Williams
*Local Arrangements
Committee Cochair
District of Columbia Council
of Teachers of Mathematics*

On behalf of the NCTM Headquarters staff, it is my great pleasure to welcome you to the Council's 2009 Annual Meeting and Exposition. We assemble in the capitol city of the United States to learn, to network, and to advocate. In this dynamic and ever-changing setting, we can gain new insights on helping all children achieve success in mathematics. We can discover new ideas and approaches from session and workshop leaders. We can examine the latest educational materials, and network with teachers from across North America and the rest of the world. At a time when science, technology, engineering, and mathematics (STEM) education is on the minds of this nation's policymakers and legislators, it is appropriate to gather together in Washington, D.C. All around us we can see and hear

the challenges of a busy urban setting, the discussion of global competitiveness and its environment, and the desire to meet the needs of the world's peoples. This venue is, indeed, symbolic of the challenges we collectively and individually face in making a brighter future for all children. Again, welcome, grow, and enjoy NCTM's Annual Meeting and Exposition.



James M. Rubillo
*Executive Director
National Council of Teachers of Mathematics*

Available Fall 2009



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you know where to take them next.**

**Grasp
the Math »**

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Program Information

THE 2009 NCTM Annual Meeting and Exposition officially begins with the Opening Session, starting at 5:30 p.m. on Wednesday, April 22, in Ballroom A/B/C at the Walter E. Washington Convention Center. All other presentations begin at 8:00 a.m. each day and are scheduled concurrently throughout the day on Thursday, Friday, and Saturday.

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 in the program book and on all meeting room signs. For your safety and due to fire regulations, only those with seats will be allowed in meeting rooms. To comply with fire codes, it may be necessary to ask any person sitting on the floor or standing to leave the room.


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.
- As a courtesy to the speakers and your colleagues, please turn off your cell phone during all presentations.




Professional Development Focus of the Year 2008–2009

Equity: All Means ALL

The 2008–2009 Focus of the Year is “*Equity: All Means ALL*.” This theme will be highlighted in many of NCTM’s activities throughout the year, including journals, the Web site, the NCTM News Bulletin, publications, and conferences. Watch for this symbol, , which will alert you to items and opportunities related to the Focus of the Year.

Learn↔Reflect Strand

Attendees are invited to participate in this event, which will start with a Kickoff session on Thursday, April 23, 2009. Sessions dedicated to the theme “*Equity: All Means ALL*,” noted by the Learn↔Reflect symbol, , will be scheduled throughout the day on Thursday and will end with a session allowing participants to reflect on the discussions and activities of the strand.


Participants are asked to reflect on the following questions throughout the Learn↔Reflect strand. At the end of the strand during the Reflection session, participants engage in a discussion based on the following questions.

1. Which of your beliefs about equity have been challenged or confirmed? How and why?
2. How can you establish a classroom environment that is equitable and challenges the pervasive societal belief that only some students are capable of learning mathematics?
3. How do you create classroom experiences that value and integrate students’ lived experiences, prior knowledge, intellectual strengths, and personal interests?

4. In your current role, identify an issue dealing with equity. How would you proactively confront the issue and advocate that all students receive a high quality mathematics education?

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.


New Teacher Strand

Sessions and gallery workshops designed to answer questions and concerns of new teachers. Sessions are grade-band-specific and include topics from management and motivation, to a question-and-answer with new and experienced teachers, 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, , on Friday, April 24, 2009, for presentations that are part of this strand.

Jump Start Sessions

Jump Start sessions provide an opportunity for you to learn, network, and have fun before the meeting officially starts. On Wednesday we are offering a range of grade-band-specific workshops to engage you activities you can use in your classrooms. They are all built from NCTM resources including the Illuminations site. See page 10 for details.

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

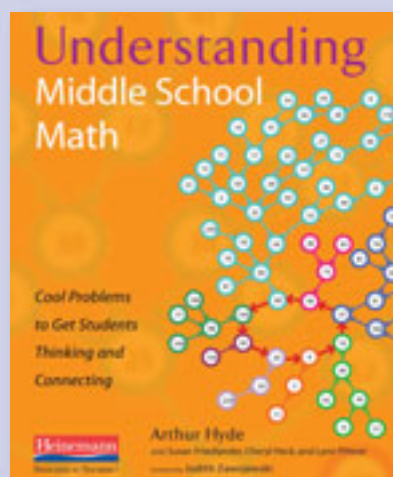
The Equity strand features presentations given by the Benjamin Banneker Association, TODOS: Mathematics for ALL, and Equity Coalition. Presentations are scheduled throughout the conference.

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.

Come, Connect, Communicate

Join your colleagues in informational discussions about the latest trends in education. Held Thursday and Friday, these small-group discussions will be led by a facilitator and provide attendees with a place to focus on important issues in the education world.



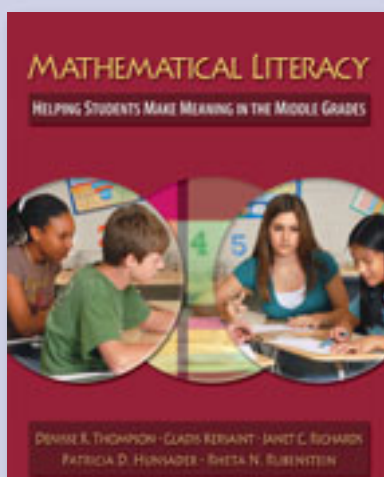
Understanding Middle School Math

Cool Problems to Get Students Thinking and Connecting

Arthur Hyde

Foreword by Judith Zawojewski

2009 / 272pp est. / \$27.00 est.

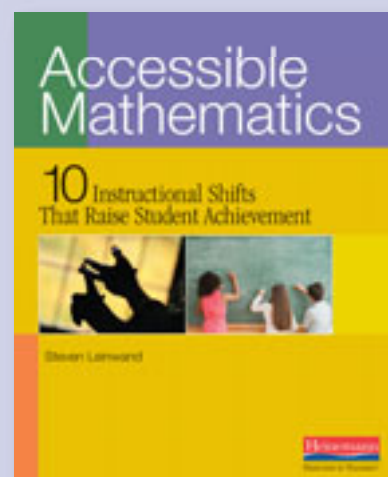


Mathematical Literacy

Helping Students Make Meaning in the Middle Grades

Denisse R. Thompson, Gladis Kersaint,
Janet C. Richards, Patricia D. Hunsader,
and Rheta N. Rubenstein

2008 / 208pp / \$23.00

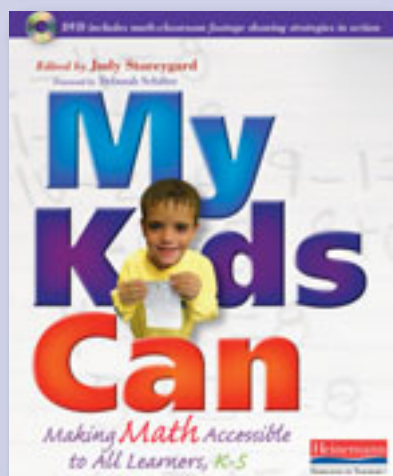


Accessible Mathematics

Ten Instructional Shifts That Raise Student Achievement

Steven Leinwand

2009 / 128pp est. / \$17.00 est.



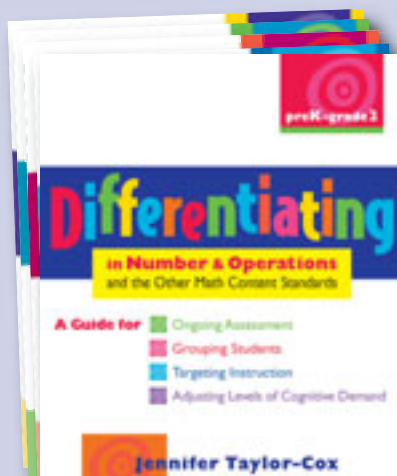
My Kids Can

Making Math Accessible to All Learners, K-5

Edited by Judith Storeygard

Foreword by Deborah Schifter

2009 / 256pp est. / \$27.00 est.

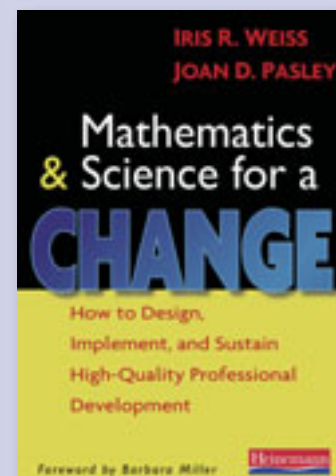


Differentiating in Number & Operations and the Other Math Content Standards, PreK-Grade 2

A Guide for Ongoing Assessment, Grouping Students, Targeting Instruction, and Adjusting Levels of Cognitive Demand

Jennifer Taylor-Cox

2008 / 1 book + 4 companion volumes / \$49.50



Mathematics & Science for a Change

How to Design, Implement, and Sustain High-Quality Professional Development

Iris R. Weiss and Joan D. Pasley

2009 / 112pp / \$14.00

Program Information

Program Overview and First Timers' Orientation

Make the most of your Annual Meeting and Exposition experience with NCTM's Program Overview and First Timers' Orientation! All conference registrants attending their first NCTM Annual Meeting and Exposition are encouraged to attend one of these sessions. The sessions will discuss the format of the conference and help attendees make the most of their experience. Our attendees are representative of the United States, Canada, and numerous international locations.

Wednesday	Thursday
Session #1	Session #3
4:00 p.m.–4:30 p.m.	7:15 a.m.–7:45 a.m.
Room 207 A/B (Convention Center)	Ballroom A (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.

Session (60 minutes)	Rooms are set theatre style and vary in size.
Research Session (60 minutes)	Rooms are set theatre style and vary in size. Research sessions emphasize the connection between research and practice.
Gallery Workshop (90 minutes)	Rooms are set with round tables for hands-on work and additional seating around the perimeter of the room. The gallery participants will receive the print material and observe the workshop in a fashion similar to a classroom observer.
Exhibitor Workshop (60 minutes)	Rooms are set theatre style for 100 people. Exhibitors showcase their products and services away from the exhibit hall.

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—preschool and prekindergarten through grade 2

Grades 3–5—grades 3 through 5

Grades 6–8—grades 6 through 8

Grades 9–12—grades 9 through 12

Higher Education—university and college level issues including both two-year and four-year institutions

Teachers of Teachers—includes preservice teacher education and professional development of teachers through the professional development of supervisors, coordinators and mathematics educators

General Interest—applicable to multiple grades and audiences

On-Site Daily News

Start each morning with the *NCTM Daily News*, which will include late-breaking news about the NCTM 2009 Annual Meeting and Exposition. Program or speaker changes and cancellations will be listed as well. The Daily News will be distributed in the lobby of the Walter E. Washington Convention Center and available in the Grand Hyatt and the Renaissance Hotel.

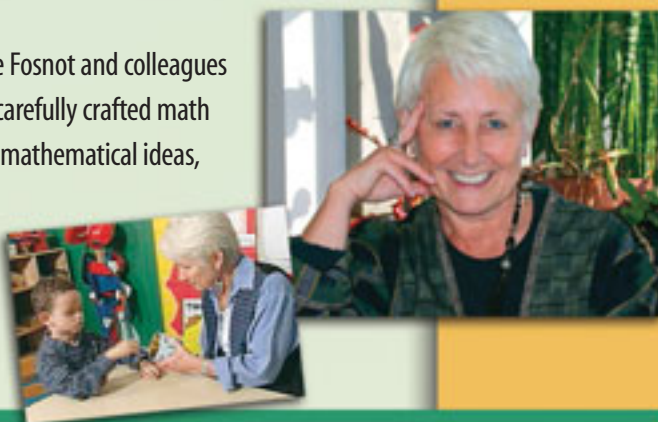
Tips for a Rewarding Annual Meeting and Exposition

- Become familiar with the layout of the Walter E. Washington Convention Center, Grand Hyatt Washington, and Renaissance Washington, D.C., Hotel by reviewing the floor plans on pages 206–09.
- Visit the NCTM Bookstore for the latest NCTM educational resources.
- Stop by the Information Booth for information on the local Washington, D.C., area.
- If attending the conference with colleagues, attend different presentations and share your learned knowledge after the conference.
- Wear comfortable shoes and clothes, and dress in layers.
- Turn off cell phones and pagers during presentations.
- Visit the Exhibit Hall, where more than 250 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 filling out the post-conference survey.
- Be safe! Remove your name badge when you leave the conference facilities at the end of the day.



Capital Detail. © Jake McGuire. All rights reserved.

The new **Contexts for Learning Mathematics** series by Catherine Fosnot and colleagues from Mathematics in the City and the Freudenthal Institute uses carefully crafted math situations to foster a deep conceptual understanding of essential mathematical ideas, strategies, and models. Designed as supplemental or replacement units, **Contexts for Learning Mathematics** will reinforce and deepen your current math curriculum.



Investigations in Number Sense, Addition, and Subtraction (GRADES K–3)

Investigations in Multiplication and Division (GRADES 3–5)

Investigations in Fractions, Decimals, and Percents (GRADES 4–6)

Workshop-Based Unit Books

- ☀ provide teachers with a two-week (10-day) sequence of investigations, games, and minilessons
- ☀ involve students in investigating, discussing, and constructing mathematical solutions and strategies
- ☀ encourage emergent learning and highlight the developmental landmarks in mathematical thinking
- ☀ incorporate collaborative problem-solving, individual and small-group conferences, and math congresses (whole-group shares)



Carefully Crafted Contexts

Read-Aloud Books (K–3) and Posters (3–5 & 4–6)

- ☀ create rich, imaginable contexts—realistic and fictional—for mathematics investigations
- ☀ are carefully crafted around landmark numbers and number relationships that are telling
- ☀ use meaningful storylines and metaphors to support the development of the mathematical ideas, strategies, and models
- ☀ encourage children to explore patterns, generalize, and use math to understand their world

FOR MORE INFORMATION, VISIT US ON THE WEB AT contextsforlearning.com

...or visit us at the Heinemann Booth

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AMP Math NovaNet®
Connected Mathematics 2
Scott Foresman
PASeries® Prentice Hall
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Wednesday Planner

8:00	
8:30	Jump Start activities begin (see p. 10 for details)
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	
1:00	
1:30	
2:00	Regional Caucuses (see p. 11 for details. Western Caucus meets at 7:30 p.m.)
2:30	
3:00	
3:30	
4:00	Program Overview and First Timers' Orientation (Session 1)
4:30	Jump Start activities conclude
5:00	
5:30	Opening Session: Challenging Racial Equity in Our Schools (Session 2)
6:00	

Registration Hours

8:00 a.m.–6:00 p.m.

East Registration (Convention Center)

Bookstore Hours

10:00 a.m.–6:00 p.m.

West Registration (Convention Center)

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.

Jump Start Activities



Jump Start Sessions provide an opportunity for conference attendees to learn, network and have fun before the meeting officially starts. We are offering a range of grade-band specific workshops to engage you in activities for your classroom.

You are also invited to attend sessions on Wednesday from the Research Presession at no additional charge. Suggested sessions are included below.

Time	Grade Band	Title	Location*	Length
8:30 a.m.	Research	Identity, Equity, and Professional Development: Supporting Learning (Plenary Session)	Room 202 A	90 min.
9:00 a.m.	PreK–5	Number Sense and Problem Solving: Using Illuminations Resources	Room 101	60 min.
	6–8	Ratios to Algebra: Online Resources	Room 103 A	60 min.
	9–12	Geometry: Lessons from E-Workshops and Navigations	Room 103 B	60 min.
10:30 a.m.	Research	Mathematics Education with Immigrant Families and Borderland Communities	Room 204 B	90 min.
	Research	Studying Large-Scale Reform Efforts	Room 209	90 min.
	PreK–5	Teaching and the Curriculum Focal Points: Grades 3–5	Room 101	60 min.
	6–8	Growth and Change: Medicinal Dosages, Epidemics and Other Intriguing Math Applications	Room 103 A	60 min.
	9–12	Functions and Algebra: Using Illuminations Resources	Room 103 B	60 min.
12:00 Noon	PreK–5	Algebra and Number Activities: Online Resources for Elementary Teachers	Room 101	60 min.
	6–8	Teaching with Games	Room 103 A	60 min.
	9–12	Cost and Resource Allocation: An Equity Application	Room 103 B	60 min.
1:00 p.m.	Research	Learning and Teaching Mathematics in a TI-Navigator™ Connected Classroom	Room 202 B	90 min.
1:30 p.m.	PreK–5	Teaching with Games	Room 101	60 min.
	6–8	Classroom-Ready Ideas from <i>Mathematics Teaching in the Middle School</i>	Room 103 A	60 min.
	9–12	Building Connections: Resources for High School Teachers	Room 103 B	60 min.
2:00 p.m.	Research	Scaling Up High-Quality Mathematics for All Children	Room 204 A	40 min.
3:00 p.m.	Research	Proof in Secondary School Mathematics	Room 209 B	90 min.
	PreK–5	Classroom-Ready Ideas from Teaching Children Mathematics	Room 101	60 min.
	6–8	Ratios and Geometry: Using Illuminations Resources	Room 103 A	60 min.
	General Interest	Puzzle Contest Solutions and Math Joke Hour	Room 103 B	60 min.

*All Jump Start presentations will be held at the Convention Center.

NCTM Regional Caucuses

Regional Caucuses for Delegates and Alternates


WEDNESDAY

Caucus & Time	Location	Presiders
Canadian Caucus 2:00 p.m.–4:00 p.m.	Constitution E (Grand Hyatt Washington)	Marc Garneau, Surrey School District, Surrey, British Columbia
Central Caucus 2:00 p.m.–4:00 p.m.	Constitution C/D (Grand Hyatt Washington)	Jim E. Austin, Louisville, Kentucky Tom Muchlinski, University of Minnesota, Minneapolis, Minnesota
Eastern Caucus 2:00 p.m.–4:00 p.m.	Constitution B (Grand Hyatt Washington)	Maria Diamantis, Southern Connecticut State University, New Haven, Connecticut William J. Barnes, Howard County Public School System's Office of Secondary Mathematics, Ellicott City, Maryland
Southern Caucus 2:00 p.m.–4:00 p.m.	Constitution A (Grand Hyatt Washington)	Desha L. Williams, Kennesaw State University, Kennesaw, Georgia 30144-5588 Cynthia L. Schneider, Charles A. Dana Center, University of Texas at Austin, Austin, Texas
Affiliates-at-Large Caucus 2:00 p.m.–4:00 p.m.	Arlington/Cabin John (Grand Hyatt Washington)	Vena Long, University of Tennessee, Knoxville, Tennessee
Western Caucus 7:30 p.m.–9:30 p.m.	Constitution A (Grand Hyatt Washington)	David Brancamp, Nevada Department of Education, Carson City, Nevada Sandy Christie, Puget Sound Educational Service District, Renton, Washington

NEW BOOKS


from NCTM

Find these books at the
NCTM Bookstore or online at
www.nctm.org/catalog



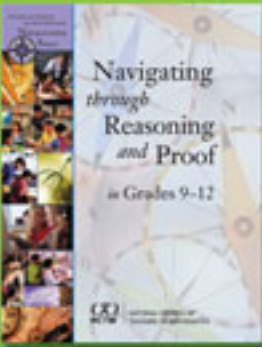
Responding to Diversity
GRADES 6–8
Mathematics for Every Student

Mathematics for Every Student: Responding to Diversity, Grades 6–8
Stock #: 13409DC1
List Price: \$22.95
Member Price: \$18.36




Growing Professionally
Messages from NCTM Publications for Grades 6–8

Growing Professionally
Stock #: 13338DC1
List Price: \$42.95
Member Price: \$34.36



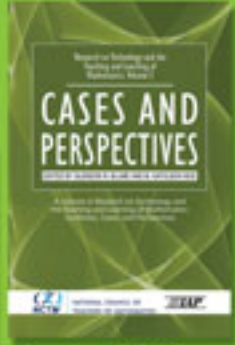
Navigating Through Reasoning and Proof
in Grades 9–12

Navigating Through Reasoning and Proof in Grades 9–12
Stock #: 13047DC1
List Price: \$42.95
Member Price: \$34.36




RESEARCH SYNTHESES
Research on Technology and the Teaching and Learning of Mathematics

Research on Technology and the Teaching and Learning of Mathematics Volume 1: Research Syntheses
Stock #: 13212DC1
List Price: \$49.95
Member Price: \$39.96



CASES AND PERSPECTIVES
Research on Technology and the Teaching and Learning of Mathematics

Research on Technology and the Teaching and Learning of Mathematics Volume 2: Cases and Perspectives
Stock #: 13432DC1
List Price: \$49.95
Member Price: \$39.96



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

4:00 p.m.–4:30 p.m.

1

Program Overview and First Timers' Orientation**(General Interest) Session**

All conference registrants attending their first NCTM Annual Meeting and Exposition are encouraged to attend one of these sessions. This session will discuss the conference's format and help attendees make the most of their conference experience.

National Council of Teachers of Mathematics Board of Directors

National Council of Teachers of Mathematics, Reston, Virginia

207 A/B (Convention Center) capacity: 736

5:30 p.m.–7:00 p.m.

2

**Challenging Racial Inequity in Our Schools****Opening Session**

Remarks by NCTM President Henry S. Kepner, Jr.

Sponsored by Houghton Mifflin Harcourt

Pedro Noguera, a leader in education reform, will offer a dynamic, profound perspective on the challenges of racial inequality and diversity. He will tackle the problems of race relations, desegregation, vouchers, and violence within schools and give some solutions that you can use to bring equal opportunity in education to our schools.

Pedro Noguera is one of this country's most important voices on the state of education today. An expert on school reform, diversity, and the achievement gap, he is a powerful, articulate and far-reaching advocate for a strong and vibrant public education system. Noguera is a professor at the Steinhardt School of Education at New York University, codirector of the Institute for The Study of Globalization and Education in Metropolitan Settings and director of the Metropolitan Center for Urban Education. One of America's leading urban sociologists, he focuses on how urban schools are influenced by social and economic conditions. He draws from his considerable body of work to connect with diverse audiences, from policy makers to administrators to teachers to parents to kids. He is an expert on education-related topics such as urban school reform, youth violence, conditions that promote students' achievement, potential impact of school choice and vouchers on urban public schools, immigration and migration issues, education in other countries, and race and ethnic relations at school.

Pedro Noguera

Metropolitan Center for Urban Education, New York, New York

Ballroom A/B/C (Convention Center)

Thursday Planner

7:00	Program Overview and First Timers' Orientation (Session 3)
7:30	60th Annual Delegate Assembly (Session 4)
8:00	A Framework for Understanding Poverty (Session 6)
8:30	
9:00	
9:30	Learn↔Reflect Kickoff: Equity: The Most Important and Challenging Issue Facing Our Schools and Society (Session 73) Forty-five Years of International Comparisons in School Mathematics: What Have We Learned? (Session 94)
10:00	
10:30	
11:00	Using Assessment to Guide Grades K–6 Mathematics Instruction: A Focus on Number and Operations (Session 144)
11:30	
12:00	
12:30	Is Math Real? Sure! It Pops Up Every Day! (Session 174) Singapore Math Sixth Graders Solve Harder Problems than the Eighth-Grade NAEP (Session 183) Framing Questions to Engage All Students in Making Sense of Mathematics (Session 203)
1:00	
1:30	
2:00	
2:30	
3:00	
3:30	Learn↔Reflect Reflection Session (Session 306) New Teachers Workshop and Kickoff (Session 342) Engaging Students in Significant Mathematics (Session 343)
4:00	
4:30	



Focus of the Year



Learn↔Reflect Strand



New Teacher Strand



NCTM Committee
Presentation

Registration Hours

7:00 a.m.–4:00 p.m.
East Registration
(Convention Center)

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.

Exhibit Hours

8:30 a.m.–5:00 p.m.
Exhibit Hall D/E
(Convention Center)

Bookstore Hours

7:30 a.m.–5:30 p.m.
West Registration
(Convention Center)

7:15 a.m.–7:45 a.m.

3

Program Overview and First Timers' Orientation**(General Interest) Session**

All conference registrants attending their first NCTM Annual Meeting and Exposition are encouraged to attend one of these sessions. This session discusses the conference's format and help attendees make the most of their conference experience.

National Council of Teachers of Mathematics Board of Directors

National Council of Teachers of Mathematics, Reston, Virginia

Ballroom A (Convention Center) capacity: 1442

7:30 a.m.–9:00 a.m.

4

60th 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.

Affiliate Services Committee

National Council of Teachers of Mathematics, Reston, Virginia

Independence A (Hyatt) capacity: 800

8:00 a.m.–9:00 a.m.

5

Interested in a Doctorate in Mathematics Education? An Acute Shortage Exists and Job Opportunities Abound**(General Interest) Session**

The presenters will discuss the shortage of doctorates in mathematics education, job opportunities, recruitment of doctoral students, provide suggestions for identifying institutions with doctoral programs, and share challenges of returning as a graduate student.

Robert Reys

University of Missouri—Columbia, Columbia, Missouri

Robert Glasgow

Southwest Baptist University, Bolivar, Missouri

140 A (Convention Center) capacity: 154



6

**A Framework for Understanding Poverty (General Interest) Session**

This session will provide some statistics, a differentiation between generational and situational poverty, some hidden rules, registers of language, story structure, and cognitive impact.

Ruby K. Payne—author, speaker, publisher, business owner, and career educator—is an expert on the mindsets of economic classes and on crossing socioeconomic lines in education, in work, and for social change. Payne's work stems from more than 30 years of firsthand experience in the public schools, as a school department head, principal, and central office administrator of staff development. An international speaker, she presents strategies for successfully raising students' achievement and negotiating economic class barriers.

Ruby K. Payne

Aha! Process, Inc., Highlands, Texas

Ballroom B/C (Convention Center) capacity: 2512



7

Keeping Mathematically Talented Minority Students "at the Top of Their Game"**(General Interest) Session**

Project EXCITE has had success addressing the achievement gap and meeting the math and science needs of talented minority learners. The speakers will share their experiences with an innovative program that provides students with more than 400 hours of supplementary mathematics and science learning experiences in grades 3–8.

George Peternel

Northwestern University School of Education and Social Policy, Center for Talent Development, Evanston, Illinois

John Benson

Evanston Township High School, Evanston, Illinois

Michelle Reed

Northwestern University School of Education and Social Policy, Center for Talent Development, Evanston, Illinois

Grand Ballroom South (Renaissance) capacity: 430



8

What Can We Learn from Black High Achievers in Mathematics?**(General Interest) Research Session**

Largely missing from the mathematics education discourse are discussions of African American high achievers in mathematics. Based on 15 years of research, this presentation focuses on the roles of identity, peer influences, best practices of educators (broadly defined), and institutional culture, in facilitating mathematics success.

Erica Walker

Teachers College, Columbia University, New York, New York

152 B (Convention Center) capacity: 262

9

Challenging But Accessible: Young Children Make Sense of Algebraic Relationships

(PreK–2) Session

“Algebrafying” elementary school mathematics is often discussed as a desirable goal. But is this curricular focus intended for all students? Using mathematical representations, students of all abilities make sense of relationships between measurable quantities. See how children explore the concepts of equality and inequality.

Linda Venenciano

Curriculum Research and Development Group, University of Hawaii, Honolulu, Hawaii

Hannah Slovin

Curriculum Research and Development Group, University of Hawaii, Honolulu, Hawaii

Maria DaSilva

Curriculum Research and Development Group, University of Hawaii, Honolulu, Hawaii

Independence F/G (Hyatt) capacity: 120

10

Bingo! Basic Addition Facts as the Foundation for Algebraic Thinking for All

(PreK–2) Session

Find out how a group of teachers at an inner-city New Jersey school helped primary school students develop algebraic thinking as they explored basic addition facts through a Bingo game. The presenters will share what they learned in our examination of a Japanese textbook during lesson study.

William Jackson

Public School No. 2, Paterson, New Jersey

Domenica Goteh

Public School No. 2, Paterson, New Jersey

Meeting Room 12/13/14 (Renaissance) capacity: 90



11

Equality in Mathematics for Students with Blindness and Visual Impairments

(PreK–2, Higher Education, Teacher of Teachers) Session

This presentation will provide attendees with an overview of the characteristics of students with blindness and visual impairments, unique accommodations and instructional strategies to access the general math curriculum, and a demonstration of technologies and manipulatives used with this population of students.

Derrick W. Smith

University of Alabama in Huntsville, Huntsville, Alabama

Meeting Room 5 (Renaissance) capacity: 58

12

Let's Give Them Math to Talk About!

(PreK–2, Teacher of Teachers) Session

This session will give teachers practical and meaningful strategies for number composition and decomposition in number sense. The speaker will share her motivating style of differentiating curriculum with songs, literature, games, and hands-on ideas that will increase the math dialog about number sense in the primary school classroom.

Kim P. Sutton

Creative Mathematics, Arcata, California

Constitution B (Hyatt) capacity: 196

13

Chicken or Egg: Expanded Algorithm or Standard?

(PreK–5) Session

“Which comes first, the chicken or the egg” can be applied to teaching algorithms for whole-number operations. Should we teach expanded algorithms before teaching the standard one? Learn how expanded algorithms promote computational fluency.

Teresa G. Banker

Kennesaw State University, Cumming, Georgia

Wilson/Roosevelt (Hyatt) capacity: 88

14

Research Findings about Elementary School Mathematics Coaches and their Impact on Teachers and Students' Achievement

(PreK–5) Research Session

Mathematics coaches provide on-site professional development addressing content, pedagogy, and curriculum. This session will summarize the results of research addressing coaches' practices and their impact on teachers and student achievement. Findings will be shared from a three-year NSF-funded study that examines students' achievement.

Patricia F. Campbell

University of Maryland, College Park, Maryland

209 B/C (Convention Center) capacity: 213

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for conference highlights
and program changes.**

THURSDAY

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15

Becoming Problem Solvers by Solving Problems!

(3–5) Session

For the last two years, a classroom teacher and a teacher of gifted students have worked together to transform a fifth-grade, inclusion classroom into a place where students are excited, successful problem solvers. Learn techniques that got our students to collaborate, communicate, reflect, and share their thought processes with the entire class.

Eydie White

Poinciana Elementary Math, Science, and Technology Magnet School, Boynton Beach, Florida

Auditorium (Renaissance) capacity: 282

16

Developing Geometric Logic

(3–5) Session

In this research-based session, strategies for teaching geometry concepts in the classroom will be shared. Topics include levels of geometric thinking and constructing mathematical understanding of 3-D and 2-D shapes. The presenters will share geometry activities that they developed and tested in elementary school classrooms.

Pamela King

Clemson University, Clemson, South Carolina

Donna Gunderson

Clemson University, Clemson, South Carolina

Farragut Square (Hyatt) capacity: 72

17

The Importance of Words: Powerful Strategies for Building Mathematical Vocabulary in the Grades 3–5 Classroom

(3–5) Session

Students' mathematical success depends on their ability to use a variety of terms with special meaning in mathematics. Experience strategies that will immerse your students in engaging vocabulary, learning to build their mathematical power. We'll share strategies like Vocab Card, Word Posters, Word Histories, Home Connection, and Vocab Games.

Brenda H. Spencer

California State University, Fullerton, Fullerton, California

Andrea Munns Guillaume

California State University, Fullerton, Fullerton, California

Renaissance East (Renaissance) capacity: 320

18

Notes from the Field: Preservice Teachers' Insights on Putting Research into Practice

(3–5) Session

Preservice elementary school teachers will share insights on putting research-based teaching into practice. Topics will include assessment-driven instruction and integrating standards-based math instruction across the curriculum. In-service teachers who host field placements are encouraged to attend and contribute to the discussion.

Crystal Walcott

Indiana University Purdue University Columbus, Columbus, Indiana

Renaissance West A (Renaissance) capacity: 162

19

Developing Fluency in Basic Facts: Integrating Strategy Instruction with First in Math® Online Program

(3–5) Research Session

What happens when a child is struggling to master the basic facts? This session describes observations and interviews of third grade students who were not progressing in learning their basic facts while engaged with First in Math software. Results suggest use of software along with a variety of approaches can lead to significant improvements.

Lynn Columba

Lehigh University, Bethlehem, Pennsylvania

Congressional Hall A (Renaissance) capacity: 198

20

Planning with Inquiry-Based Mathematics Programs: Complexities and Influences

(3–5, Higher Education, Teacher of Teachers) Research Session

The speaker will present work from his research project exploring teacher planning with inquiry-based material, share findings regarding No Child Left Behind, testing, collaboration, and teachers' beliefs; make connections from the research to classroom practice; and share a framework highlighting the planning process.

Troy P. Regis

The Math Forum @ Drexel University, Philadelphia, Pennsylvania

Renwick/Bulfinch (Hyatt) capacity: 72

8:00 a.m.–9:00 a.m.

21**Differentiating Instruction in Math: It's Not as Hard as You Think!****(3–8) Session**

In a classroom, students' needs vary, yet curricula and texts are usually not set up to make it easy to differentiate math instruction. This session will explore simple strategies that any teacher can regularly use to make his or her classroom more inclusive and engaging for all students.

Marian Small

University of New Brunswick, Fredericton, New Brunswick, Canada

158 A/B (Convention Center) capacity: 137

22**Fluency and Fluidity with Fractions: How Adaptive Technology Can Help****(3–12) Session**

Many students founder when they reach fractions. With a fragile foundation, they struggle as they progress to advanced math. Learn what it means to be “fluent” with fractions, and find out how interventions built on adaptive technology and based on cognitive research can help students develop a robust understanding and fluidity with fractions.

David Dockterman

Harvard Graduate School of Education, Cambridge, Massachusetts

Renaissance West B (Renaissance) capacity: 162

23**Teaching English Language Learners the Academic Language of Mathematics****(3–12, Teacher of Teachers) Session**

Research will be presented on the academic language of mathematics and evidence-based literacy strategies that supporting effective mathematics teaching. Out of this research a framework (CRAFT) has been developed to systematically addressing literacy for diverse mathematics classrooms.

Mark David Oursland

TODOS: Mathematics for ALL; Central Washington University, Ellensburg, Washington

Ballroom A (Convention Center) capacity: 1442

24**Come Fly with Math: Using Model Airplanes to Explore Physics and Mathematics Connections****(6–8) Session**

Flight is a topic of high interest to students. AeroLab lessons use simple, foam-and-balsa model airplanes as tools to teach middle school math concepts and skills. Students learn to describe and explore relationships among force, mass, and changes in motion mathematically. Participants in this workshop will build and fly model aircraft.

Andrew Chiaraviglio

Cary Academy, Cary, North Carolina

Pat Martin

Cary Academy, Cary, North Carolina

103 B (Convention Center) capacity: 164

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25

Make Math Count: Financial Literacy for a Technological World

(6–8) Session

Address NCTM strands of problem solving, communication, and connections while fully engaging students with Excel, Web 2.0 technologies, and games created by Robert Kyosaki. Resources are available online that address income, careers, retirement, linear and exponential growth, and assessments differentiated by learning styles.

Leslie F. Williams

Cary Academy, Cary, North Carolina

151 B (Convention Center) capacity: 284

26

Technology Investigations for Middle School

(6–8) Session

Explore the world of technology in middle school mathematics! Learn how to use the QX5 digital microscope, digital cameras, graphing calculators, video clips, and mathematical software to investigate concepts for middle school students.

Mary C. Enderson

Middle Tennessee State University, Murfreesboro, Tennessee

Janet M. Walker

Indiana University of Pennsylvania, Indiana, Pennsylvania

207 B (Convention Center) capacity: 426

27

Developing Number Sense through Math Olympics

(6–8, Teacher of Teachers) Session

There is one week left of school! Grades have already been turned in, and kids are off the wall! What is a teacher to do? This session will provide educators with tools to close the school year through an Olympic approach. Competitive and stimulating events are a culmination of objectives learned throughout the year.

Melissa Waggoner

Howard County Public Schools, Howard County, Maryland

145 B (Convention Center) capacity: 278

28

Considering Culture: Strategies and Activities for Encouraging All Students in Mathematics

(6–12) Session

The speaker will discuss specific instructional strategies for encouraging students from diverse cultural backgrounds. We will also experience and discuss algebra and geometry application activities based on authentic data with connections to multiple cultures. Numerous activities will be shared.

Leah P. McCoy

Wake Forest University, Winston-Salem, North Carolina

102 A (Convention Center) capacity: 144



29

Making the Case for Girl-Only Math Classrooms in Middle School

(6–12, Higher Education) Session

Presidents' Series presentation

The awkwardness of adolescence can be difficult for the middle school girl. The emotional sensitivity at times can spark an increase in volatility. The physical and emotional changes can affect focus in math. Girls' math achievements can be maximized when enrolled in girl-only classrooms that emphasize female social interests and needs.

Marilyn Anita Evans

President, Women and Mathematics Education, Houston, Texas

147 B (Convention Center) capacity: 255

30

EXCElIng with Visual Basic: An Introduction with Activities

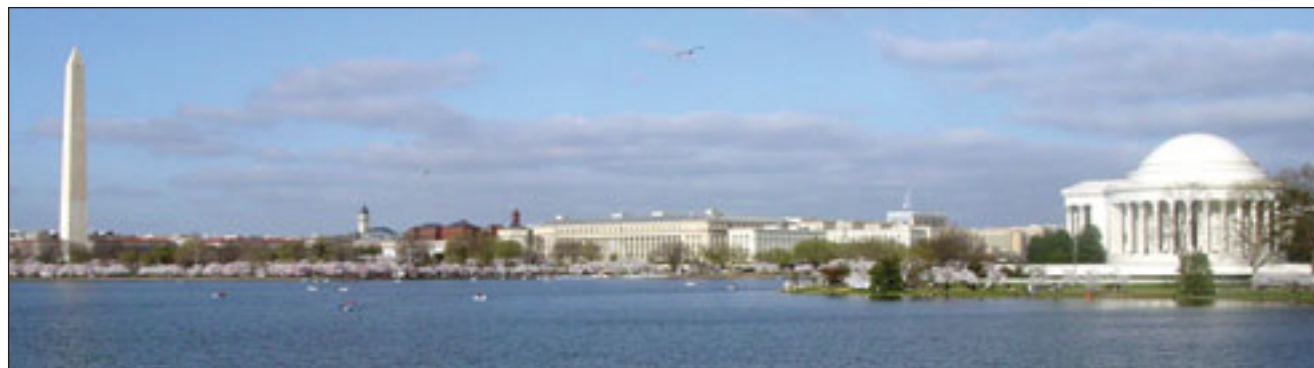
(6–12, Higher Education) Session

This session provides an introduction on how to access and use Visual Basic features already included in Excel to create dynamic visualizations to help students explore different mathematical topics. Experience these features that transform Excel from a data analysis tool to an applet creation environment. Handout contains detailed directions.

Nicole Juersivich

University of Virginia, Charlottesville, Virginia

156 (Convention Center) capacity: 156



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31

Exploring Mathematics through Advanced Technology Applications from Popular Culture

(6–12, Teacher of Teachers) Session

This session will present multiple computer-based, interactive labs that can be used to help students see the connections between their everyday lives and advanced technological applications that rely on fairly sophisticated mathematics, including digital photo editing, digital image manipulation, and mixing and editing audio.

Jason Silverman

Drexel University, Philadelphia, Pennsylvania

Gail Rosen

Drexel University, Philadelphia, Pennsylvania

Boris Dirnbach

Drexel University, Philadelphia, Pennsylvania

Adheer Chauhan

Drexel University, Philadelphia, Pennsylvania

Ryan Coote

Drexel University, Philadelphia, Pennsylvania

202 B (Convention Center) capacity: 418

32

Independence, Mutual Exclusivity, and Conditional Probability: Why Are They So Confusing?

(9–12) Session

As probability goes beyond examples and definitions, it becomes confusing and hard to teach. These three concepts can seem unrelated, though we know that they are not. We will clarify the relationships and share some insight about how to present them to AP Statistics students in an organized, accessible way.

Ruth E. Miller

Roland Park Country School, Baltimore, Maryland; Towson University, Towson, Maryland

144 C (Convention Center) capacity: 156

33

Algebraic Functions: Enhancing Students' Understanding with Graphical Representations

(9–12) Session

Students continue to have difficulty connecting algebraic functions to their graphical representations. We will share strategies to help students understand piece-wise functions, where functions are positive versus negative, increasing versus decreasing, and more. Some examples will include the use of technology.

Elizabeth Kim McClain

University of Kansas, Lawrence, Kansas

Susan Gay

University of Kansas, Lawrence, Kansas

146 A (Convention Center) capacity: 423

34

Geometer's Sketchpad® for Smarties, not Dummies

(9–12) Session

Explore The Geometer's Sketchpad in a rapid-fire, jam-packed session including all the drop-down menus in both top and left tool bars. The session will include tricks and tips to align items vertically and horizontally, measurements in text, animation, the trace feature, morphing, and much more. Bring a seat belt.

John David Kohlrieser

Virginia Council of Teachers of Mathematics, Richmond, Virginia

204 C (Convention Center) capacity: 135

35

Stimulating Problems to Nspire™ Mathematical Connections with Multiple Representations

(9–12, Higher Education, Teacher of Teachers) Session

Using the TI-Nspire, participants will explore problems that connect algebra, geometry, and statistics. Participants will create multiple representations and discuss primary opportunities to promote classroom discourse and pose questions to help students link the important mathematical ideas. Sample activities and assessments will be shared.

Jane M. Wilburne

Pennsylvania State University Harrisburg, Middletown, Pennsylvania

Rose Zbiek

Pennsylvania State University, State College, Pennsylvania

149 A/B (Convention Center) capacity: 174

36

Using Technology to Improve the Learning Experience (and Conceptual Understanding) of Undergraduate Students of Statistics

(9–12, Higher Education, Teacher of Teachers) Session

The speaker's current research intends to show a variety of ways to use screen casts and Flash applets to teach introductory statistics topics, such as the normal distribution, the central limit theorem, and statistical inference. The work presented will be dissertation work that will be completed in the coming year.

Kenneth Charles Strazzeri

University of Virginia, Charlottesville, Virginia

209 A (Convention Center) capacity: 107

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37

Federal Initiatives in Mathematics Education

(Higher Education, Teacher of Teachers) Session

How is mathematics learning supported at the U. S. Department of Education? An analysis of the data available on mathematics learning, particularly among diverse populations, will be shared. Results from targeted programs and research studies will be presented, with discussion of how these affect schools throughout the country.

Patricia O'Connell Johnson

United States Department of Education, Washington, D.C.

146 C (Convention Center) capacity: 414

38

Bridging Policy and Practice through Ethnomathematics

(Higher Education, Teacher of Teachers) Session

In an effort to bridge policy and practice in diverse populations, this presentation focuses on research conducted at U.S. higher educational institutions in the field of ethnomathematics, the relationship among math, culture, and identity, including ethnicity, socioeconomic class, English language learning, and special needs.

Linda Furuto

University of Hawaii—West Oahu, Pearl City, Hawaii

203 A/B (Convention Center) capacity: 150

39

Teachers Engaging Parents: Equaling the Mathematical Playing (Learning) Field

(Higher Education, Teacher of Teachers) Research Session

A qualitative research project that involved teachers surveying parents about collaboration with their children in mathematics, implementing an initiative to engage parents and children in mathematical learning, and reflecting on what they learned.

Regina Marie Mistretta

Saint John's University, Staten Island, New York

Cabin John/Arlington (Hyatt) capacity: 88

40

Not Defeated, Just Struggling: Stories from a Mathematics Learning Community

(Teacher of Teachers) Session

This session will analyze a three-year collaboration intended to strengthen the preparation of preservice elementary school teachers, focusing on the importance of U.S. teachers' conceptual understanding of math content for teaching, and outlining integrating content and pedagogical knowledge through individual teaching and coteaching.

Ellen May Davidson

Simmons College, Boston, Massachusetts

Donna Beers

Simmons College, Boston, Massachusetts

150 B (Convention Center) capacity: 248

41

Do Your Classes Click? Using Interactive Remotes to Increase Participation and Learning

(Teacher of Teachers) Session

During this interactive session, participants will use clickers in a variety of instructional formats and experience how these handheld remotes can increase students' interest, participation, and learning. Participants will receive handouts that summarize the research basis for using clickers and suggest strategies for their use.

Linda Forbringer

Southern Illinois University Edwardsville, Edwardsville, Illinois

Lafayette Park (Hyatt) capacity: 78

8:30 a.m.–9:30 a.m.

Exhibitor Workshop 1

ThinkFun

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Who said learning can't be fun? Discover how ThinkFun Games are used to teach problem solving! This innovative, hands-on program empowers students to reach their potential while never losing their smile! Free game and resource materials!

Room 143 A (Convention Center)

Exhibitor Workshop 2

Pearson

Investigating Implementing Investigations

Review the program through the eyes of a student. (Grades K–5)

Room 143 B (Convention Center)

8:30 a.m.–9:30 a.m.

Exhibitor Workshop 3

HP Calculators

Algebra for All in the Middle Grades

HP Calculators has a new solution for middle grades math. Come get hands-on experience with the easy-to-use HP 39GS graphing calculator and the StreamSmart data-streamer! Motivating students to learn Algebra has never been easier!

Room 143 C (Convention Center)

Exhibitor Workshop 4

Kinetic Books

Interactive Digital Texts Engage Students in Algebra

Use multiple forms of input to engage your students in algebra. Animations, audio, multiple self-assessment tools, and more are built into a comprehensive digital textbook that has successfully passed through, and been adopted by, California's state textbook adoption.

Room 144 A (Convention Center)

8:30 a.m.–10:00 a.m.

42

M. C. Escher Made Islamic Art Come Alive, and You Can, Too!

(General Interest) Gallery Workshop

Participants will see how M. C. Escher used tessellations from Islamic art as a basis for intriguing transformational masterpieces. Learn how to construct triangular and square grids, recognize Islamic patterns, cut six- and eight-pointed stars, and use a "nibbling technique" to create Escher-like designs. Handouts will be available.

Carol D. Desoe

Scarsdale High School, Scarsdale, New York

151 A (Convention Center) capacity: 291

43

Origami 101: Everything You Wanted to Know about Paper Folding, and More!

(General Interest) Gallery Workshop

Teachers have used the Japanese art of paper folding at all levels of math in many innovative ways. This workshop focuses on origami history, basics, the many folding genres, and multicultural implications. Extensive resources of books and supplies will be provided so that both the novice and seasoned folder will have new media for the classroom.

David K. Masunaga

Iolani School, Honolulu, Hawaii

Meeting Room 8/9 (Renaissance) capacity: 60

44

Manipulatives, Math Centers, and Meeting the Needs of All Students

(PreK–2) Gallery Workshop

Participants will have an opportunity to see and use math centers that meet the needs of the struggling as well as enrichment students in your classroom. Centers will reinforce place value, money, time, fractions, fact practice, and geometry.

Cindy Weinrich

Consultant, Ambler, Pennsylvania

Terrie L. Newbold

Consultant, Hackettstown, New Jersey

146 B (Convention Center) capacity: 340

45

Incorporating Children's Literature and Calculators into Grades K–2 Mathematics

(PreK–2) Gallery Workshop

Literature, calculators, and mathematics are a powerful and motivational combination for the mathematics classroom. Activities will incorporate children's literature. Participants will have hands-on experience with the TI-10. Activities will be included from several content strands.

Deborah Crocker

Appalachian State University, Boone, North Carolina

Constitution C/D/E (Hyatt) capacity: 200

46

Problem Solving for Young Learners: Targeting State Standards and NCTM Curriculum Focal Points

(PreK–2) Gallery Workshop

Engage in solving problems that stimulate deep processing of mathematical concepts. Experience instructional strategies that emphasize visual, hands-on processing, using multiple representations, and focused discourse. Purposefully select a sequence of students' work for sharing to scaffold conceptual development. Samples will be available.

Ann McMahon

Oregon Council of Teachers of Mathematics, Portland, Oregon

Jacqueline Cooke

Oregon Council of Teachers of Mathematics, Portland, Oregon

Grand Ballroom North (Renaissance) capacity: 298

THURSDAY

47

A Touch of Magic, Shimmering Stars, and Pointy Pretzels Create Mathematicians out of Budding Learners!

(PreK–2, Teacher of Teachers) Gallery Workshop

Using pretzels to make time fly, tossing around math terms with popcorn, and spending a fraction of the session with play dough, teachers will explore activities in abstract concepts such as time, money, measurement, and fractions for students in regular education or those with special language or learning needs.

Kathryn Robinson

Writemath Enterprises, Inc., Valrico, Florida

Congressional Hall B (Renaissance) capacity: 132

48

Integrate to Differentiate

(PreK–5) Gallery Workshop

Learn strategies to integrate literature, manipulatives, virtual manipulatives, Internet sites, and problem solving in highly engaging, differentiated mathematics lessons.

Tilson Crew

Clark County School District, Las Vegas, Nevada

Karen Schiemer

Clark County School District, Las Vegas, Nevada

Constitution A (Hyatt) capacity: 180



49

Teaching and Assessing English Learners' Mathematics Using Hands-On Learning Games and Activities

(PreK–5) Gallery Workshop

Effective instructional and assessment strategies will be presented that use hands-on learning games and activities, tested in actual classrooms with English language learners. Students' actual work samples and rubrics will be discussed with the participants. Handouts containing activity ideas to use as assessment tools will be provided.

Insook Chung

Saint Mary's College, Notre Dame, Indiana

Independence H/I (Hyatt) capacity: 95

50

Access to Algebra: Helping Teachers Develop Relational Thinking in Grades K–6 Students

(PreK–5, Teacher of Teachers) Gallery Workshop

This interactive session will discuss the importance of relational thinking and offer teacher educators strategies to help their teachers understand the extent to which students are able to think in algebraic and relational terms (through assessment techniques), and develop their students' understanding of equality.

Cindy Jong

Boston College, Boston, Massachusetts

Lillie R. Albert

Boston College, Chestnut Hill, Massachusetts

102 B (Convention Center) capacity: 204

51

Entertaining Mathematics for Clubs or Classrooms

(3–5) Gallery Workshop

Casino—an ancient Italian card game—teaches number sense and strategy, and play-acting helps students develop the formula for the number of possible handshakes among n people. Attendees will try both these delightful activities as well as learn how to set up a mathematics club and keep it going.

Elizabeth Appelbaum

Blue Valley School District, Overland Park, Kansas

Denise Thomas

Blue Valley School District, Overland Park, Kansas

Independence B/C (Hyatt) capacity: 95

52

Making Sense of Basic Operations for Greater Conceptual Understanding

(3–5, Teacher of Teachers) Gallery Workshop

Infuse the teaching and learning of computational strategies with greater conceptual understanding. Learn to communicate the meaning of basic algorithms clearly. Benefits to all students include readily observable increases in accuracy, efficiency, and an expanded knowledge base that is transferable to more difficult mathematical situations.

Steven Bluestone

Rye City School District, Rye, New York

Peggy Gelman

Rye City School District, Rye, New York

103 A (Convention Center) capacity: 232

53

Tiling with Dot Paper**(3–8) Gallery Workshop**

Participants will explore tiling patterns using square and triangular dot paper. The experience of reproducing the shape on dot paper focuses attention on the two-dimensional aspects of shapes and relationships among shapes. Many aspects of the middle grades geometry curriculum can be developed in this exploration, including imagery and transformations.

Anne Reynolds

Kent State University, Kent, Ohio

Sandy Davis Trowell

Valdosta State University, Valdosta, Georgia

Joan Eileen Lillard

Norman Public Schools, Norman, Oklahoma

208 A/B (Convention Center) capacity: 95

54

Come Fly with Me: Paper Airplanes Make Geometry, Statistics, and Science Real!**(3–8) Gallery Workshop**

Participants will use geometry as a framework to explore concepts of statistics and science. Teachers will examine and identify a variety of geometric figures and concepts as they make and fly paper airplanes, and measure, record, and graph their results. Curriculum standards include geometry, measurement, representation, and communication.

James J. Clayton

Saint Peter's College, Jersey City, New Jersey

Sera M. Clayton

Livingston Public Schools, Livingston, New Jersey

Grand Ballroom Central (Renaissance) capacity: 337

55

Promoting Reasoning in Elementary and Middle School Students through Collaborative Problem Solving**(3–8) Gallery Workshop**

The focus will be promoting reasoning and proof in elementary and middle-school students. Participants will work on open-ended tasks involving fractional relationships using Cuisenaire rods. Video footage will be shown of fourth- and sixth-grade students engaging in collaborative reasoning while working on the same tasks.

Mary Mueller

Seton Hall University, South Orange, New Jersey

Carolyn Maher

Rutgers University, New Brunswick, New Jersey

144 B (Convention Center) capacity: 96

56

Order of Operations without Memorizing Rules!**(3–8) Gallery Workshop**

During this fun, easy-to-implement, classroom-tested unit, students represent and evaluate mathematical expressions using logic and multiple representations—words, pictures, and numbers. The unit concludes by students “discovering” and explaining why the order-of-operations rules exist, which will improve students’ number and operation sense.

Susan Mercer

Santa Ana Unified School District, Santa Ana, California

145 A (Convention Center) capacity: 244

57

Why Johnny Won't Think**(3–8, Teacher of Teachers) Gallery Workshop**

Mathematics education has failed. Politicians and standardized tests are making it worse. The speaker will discuss some ways we can improve individually and collectively despite these obstacles.

Steve Willoughby

Past President, National Council of Teachers of Mathematics; University of Arizona, Tucson, Arizona

201 (Convention Center) capacity: 326

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58

Empowered to Differentiate with Support from Empirically-Based Data**(3–12) Gallery Workshop**

Teachers can differentiate in the mathematics classroom to close the skill gaps in students' content backgrounds. Participants will experience various activities and explore the free tools, resources, and data available at the Quantile Web site.

Ruth R. Price

MetaMetrics, Inc., Durham, North Carolina

Independence D/E (Hyatt) capacity: 95

59

Three Rich Activities That Motivated and Worked with Our Diverse Middle School Scholars**(6–8) Gallery Workshop**

Participants will complete activities we've used successfully with minority scholars. Problem solving, data-collection experiments, and mathematical card tricks have motivated and helped our students learn important mathematics. We'll also discuss techniques for implementing these activities and develop ways to assess their effectiveness.

James Matthews

Siena College, Loudonville, New York

150 A (Convention Center) capacity: 226

60

Fraction Fundamentals: Actions Implied in Worded Problems Can Guide Students' Understanding of Operations on Fractions**(6–8, Teacher of Teachers) Gallery Workshop**

Participants will explore concepts of multiplication and division of fractions through worded problems and models, examine actions implied by the words, and analyze how actions provide a rationale for the fraction division algorithm.

Melfried Olson

University of Hawaii, Honolulu, Hawaii

140 B (Convention Center) capacity: 125

61

Using Formulas by Seeing Formulas: Developing Visual Models Using Investigations, Comics, and Animations**(6–12) Gallery Workshop**

Visual models are powerful tools that help all students move past a memorization of formulas to an understanding of how to apply them. By exploring a sequence of engaging investigations, illustrated comics, video animations, and problem-solving situations, students gain a rich, meaningful understanding of circles and the Pythagorean relationship.

Sheldon James Erickson

AIMS Education Foundation, Fresno, California; Fresno Unified School District, Fresno, California

101 (Convention Center) capacity: 170

62

Adventures in Graphing: Graph Like You've Never Graphed Before!**(6–12) Gallery Workshop**

Engage in classroom-tested, research-based strategies for developing conceptual and procedural knowledge about graphing linear and nonlinear functions that have proven successful with our culturally and economically diverse students, including English learners. Participants will receive a CD with a ton of resources to use in your classroom!

Mark W. Ellis

California State University Fullerton, Fullerton, California

Lisa Schirm

Buena Park Junior High School, Buena Park, California

Laurel Cherry

Buena Park High School, Buena Park, California

207 A (Convention Center) capacity: 339

63

Helping Teachers Reach the "Tough to Teach" in Algebra**(6–12) Gallery Workshop**

With advanced standards and requirements, more special-needs students are in mathematics classrooms. A model will be presented with intervention techniques that can help rescue these students. It will include placement and assessment, concept development activities, practice activities, and problem-solving activities using the content of Algebra 1.

Larry D. Bradsby

Jefferson County Public Schools, Lakewood, Colorado

154 A/B (Convention Center) capacity: 162

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

64

Promoting Calculus Concepts for All!**(6–12, Higher Education, Teacher of Teachers)****Gallery Workshop**

Underpinnings of calculus can be accessible to students at many levels when presented using hands-on, visual, data-driven, technological approaches. Rich problems will be presented that connect real-world mathematics and the thinking required for conceptual understanding of calculus and enhance all students' mathematical experience.

Nina Girard

University of Pittsburgh at Johnstown, Johnstown,
Pennsylvania

Mike Long

Shippensburg University, Shippensburg, Pennsylvania

204 A (Convention Center) capacity: 227

65

Improving Instruction with Technology: SMART Board™ and TI-Nspire™ Computer Algebra System (CAS)**(9–12) Gallery Workshop**

Hear and see how using the SMART Board and TI-Nspire CAS technology rejuvenated the speaker's teaching of calculus. Experience a hands-on activity with the latest handheld learning tool, the TI-Nspire CAS. Learn about resources and professional electronic groups dedicated to make the technology more productive, enjoyable, and enlightening.

Sean Bird

Covenant Christian High School, Indianapolis, Indiana

147 A (Convention Center) capacity: 243

66

Geometry and Algebra: Help Students See the Connections**(9–12) Gallery Workshop**

The workshop will model activities that help students see connections between geometry and algebra. In the process, students' conceptual understanding is deepened. Concepts explored include angle measure, congruence, and similarity. Experience with TI-84 will be helpful, but not essential. Concepts explored are found in a standard geometry course.

Laurie Boswell

The Riverside School, Lyndonville, Vermont

152 A (Convention Center) capacity: 226

67

Polynomial Functions: Introduction, Investigation, Analysis, and Mastery**(9–12) Gallery Workshop**

Experience a wide variety of student-tested activities promoting investigation and sense making of polynomial function behavior. Work individually or in a group with concrete and abstract formulations, manipulatives, and with technology. Multiple opportunities will be included for nontraditional assessments to meet the needs of all students.

Virginia Highstone

York Community High School, Elmhurst, Illinois

202 A (Convention Center) capacity: 368

68

How Many Elephants Are in Africa?**(9–12) Gallery Workshop**

When researchers are counting elephants, several decisions are made. Count elephants (1) from air or ground, (2) in an entire or representative area, and (3) by their markings directly? Approaches to counting elephants have become more statistically refined. Through classroom activities, participants will explore methods used to count elephants.

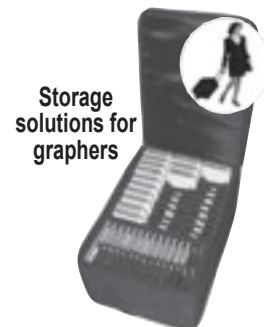
Sarah Quebec Fuentes

Ridgewood High School, Ridgewood, New Jersey

206 (Convention Center) capacity: 323

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8:30 a.m.–10:00 a.m.

69

Critical Thinking about Crucial Values, Decisions, and Errors in Hypothesis Testing (9–12, Higher Education) Gallery Workshop

Participants will engage in activities and unique problem situations to develop a deeper understanding of hypothesis testing. Attention will be on contextual analysis of statistical decisions and the potential for error. The workshop will conclude with a discussion of best practices to develop students' understanding. Activities will be student-ready.

David Spohn

Hudson High School, Hudson, Ohio

159 A/B (Convention Center) capacity: 109

9:30 a.m.–10:30 a.m.

70

In Another Voice: Teaching Mathematics to Culturally and Linguistically Diverse Learners: What Is Fair?

(General Interest) Session

Culturally and linguistically diverse (CLD) learners can learn mathematics as effectively as English proficient students. The challenge for teachers is to provide appropriate learning experiences for CLD students and to get to know these students and their culture. Students' work and experiences will be included.

Art Johnson

Boston University, Cheraw, South Carolina

149 A/B (Convention Center) capacity: 174

71

Math and Laugh

(General Interest) Session

That's right. Math can be fun for students and teachers alike! Through current events and activities from the world of math, the speaker will have you laughing and learning. When you leave, you will have a smile on your face and you'll be inspired and re-energized. He will bring the activities. You bring a sense of humor!

Don Fraser

University of Toronto, Toronto, Ontario, Canada

207 B (Convention Center) capacity: 426

72

The Diversity of Mathematical Identities: Understanding the Dispositions That Define Our Relationships with Mathematics

(General Interest) Session

Even those who are good at math have very different mathematical identities. Through hands-on activities, explore several dimensions of your mathematical identities. The speakers will consider the differences in identities of five "good" mathematics students and discuss how an awareness of these differences can help us motivate all students better.

Keith Rigby Leatham

Brigham Young University, Provo, Utah

Diane Hill

Brigham Young University, Provo, Utah

209 B/C (Convention Center) capacity: 213

COR 73

Equity: The Most Important and Challenging Issue Facing Our Schools and Society

Learn↔Reflect Kickoff

(General Interest) Session

Changing inequitable practices and policies can be challenging since they can be subtle or blatant, personal or institutionalized, aware or unaware. I will discuss some insights that will increase the likelihood that the discussions today will be meaningful and productive and ask you to reflect on and talk about your experiences with inequity.

Julian Weissglass

University of California, Santa Barbara, Santa Barbara, California

Ballroom A (Convention Center) capacity: 1442

74

Becoming a PRIME Teacher: Using Assessment to Facilitate Students' Learning and Effort!

(General Interest) Session

Presidents' Series presentation

This motivational and humorous session will provide assessment strategies guaranteed to improve students' achievement and inspire effort. You will gain knowledge of the expectations of the PRIME leadership and teaching framework by the National Council of Supervisors of Mathematics (NCSM). Assessment can motivate the unmotivated, restore the desire to learn, and encourage students to keep learning.

Timothy Kanold

National Council of Supervisors of Mathematics, Lodi, California

Ballroom B/C (Convention Center) capacity: 2512

75

The Mathematics of Frank Lloyd Wright (General Interest) Session

Frank Lloyd Wright incorporated many aspects of mathematics in his architecture. He said that, "Geometry is the grammar of a building." This very visual presentation will look closely at many of his buildings and use his own comments on the role of mathematics in his work. Be prepared for a beautiful and aesthetic display of math in our world.

Mary Wiltjer

Glenbrook South High School, Glenview, Illinois

Congressional Hall A (Renaissance) capacity: 198

 76

Moving beyond the Achievement Gap: Identity and Power in Mathematics Learning and Teaching

(General Interest) Research Session

Members of the *Journal for Research in Mathematics Education* Editorial Panel, along with authors of the journal's special issue on equity, will speak about the roles of identity and power (e.g., racism, sexism, classism, the politics of language) in mathematics learning and teaching. Implications for classroom practice will be emphasized.

Journal for Research in Mathematics Education Equity Special Issue Editorial Panel

National Council of Teachers of Mathematics, Reston, Virginia

145 B (Convention Center) capacity: 278

77

NCTM Research Agenda Conference: Where Do We Go from Here?

(General Interest) Research Session

In August 2008, NCTM brought together researchers, practitioners, and policymakers to create a research agenda with focused attention on important questions for which practitioners need research-based answers. The session will provide an opportunity for the mathematics education community to discuss the agenda and how to move the agenda forward.

Fran Arbaugh

University of Missouri—Columbia, Columbia, Missouri

Brad Findell

Ohio Department of Education, Columbus, Ohio

Judith Reed Quander

National Council of Teachers of Mathematics, Reston, Virginia

Dave Barnes

National Council of Teachers of Mathematics, Reston, Virginia

Wilson/Roosevelt (Hyatt) capacity: 88

78

Now That's the Question!

(PreK–2) Session

Questions emphasizing problem solving and application are the cornerstone of excellent math instruction. A quality question targets higher-level thinking and promotes rigor for all children. Participants will learn how to plan questions and manage classroom discussions to meet the needs of young learners intentionally and purposefully.

Carey B. Sneska

Carroll County Public Schools, Westminster, Maryland

Marcy Myers

Carroll County Public Schools, Westminster, Maryland


Lafayette Park (Hyatt) capacity: 78

THURSDAY

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79

The National Research Council Report on Early Mathematics

(PreK–2, Higher Education, Teacher of Teachers) Session

The National Research Council recently completed a study of early childhood math, synthesizing and analyzing the past twenty years of research from a number of disciplinary fields. The report's authors will draw implications for policy and practice that will help all children, especially vulnerable children, get a strong start in learning math.

Douglas H. Clements

University at Buffalo, State University of New York, Buffalo, New York

Karen Fuson

Northwestern University (Emerita), Fallbrook, California

Sybilla H. Beckmann

University of Georgia, Athens, Georgia

Herbert H. Ginsburg

Teachers College, Columbia University, New York, New York

Renaissance East (Renaissance) capacity: 320

80

Incorporating Algebra into Number of the Day Routines

(PreK–2, Teacher of Teachers) Session

Watch children develop mathematical thinking in algebra through the use of number of the day routines. Using research from “Thinking Mathematically,” topics such as equality, variables and relational thinking will be covered as children solve problems to increase their algebraic thinking.

Jennifer Marie Johnson

Des Moines Public Schools, Des Moines, Iowa

John Butz

Des Moines Public Schools, Des Moines, Iowa

David Lingwall

Des Moines Public Schools, Des Moines, Iowa

Farragut Square (Hyatt) capacity: 72

Meet the Authors!
Talk to the authors of
NCTM's newest publication,
Promoting Purposeful
Discourse, and learn more
about how you can become
a writer for NCTM. Thursday,
April 23 at 1:30 pm – 3:00 pm
in the NCTM Bookstore.

81

Learning from Mathematical Conversations with Children

(PreK–2, Teacher of Teachers) Session

What do teachers learn when young children are invited into a conversation about their mathematical thinking? Explore how conversations in a structured mathematics assessment provide opportunities for children to illustrate their deep mathematical thinking.

Florence Glanfield

University of Alberta, Edmonton, Alberta, Canada

M. Shaun Murphy

University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Karen Campbell

Prairie Spirit School Division, Warman, Saskatchewan, Canada

Cindy Clarke

Prairie Spirit School Division, Warman, Saskatchewan, Canada

Cory Cox

Prairie Spirit School Division, Warman, Saskatchewan, Canada

Kristi Nelson

Prairie Spirit School Division, Warman, Saskatchewan, Canada

Trish Reeve

Prairie Spirit School Division, Warman, Saskatchewan, Canada

Rachel Sharp

Saskatoon Public School Division, Saskatoon, Saskatchewan, Canada

Karen Storey

Saskatoon Public School Division, Saskatoon, Saskatchewan, Canada

Independence A (Hyatt) capacity: 800

82

From Numerals to Intervals and Back: How Young Children Think about Measuring

(PreK–5) Session

This workshop will discuss a variety of ways that young children view the parts of a ruler. Video clips of children working with and explaining their ways of thinking about the ruler will be presented. Tasks to help move children from seeing the numbers on the ruler as mere markers between units will also be explored.

Jenni McCool

Illinois State University, Normal, Illinois

Jeff Barrett

Illinois State University, Normal, Illinois

Craig Cullen

Illinois State University, Normal, Illinois

Renwick/Bulfinch (Hyatt) capacity: 72

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- Developmentally appropriate

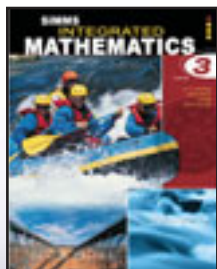
MATH INNOVATIONS (6-8)

NEW!

- Aligns with the NCTM Curriculum Focal Points
- Develops critical thinking skills
- Supports varied learning styles
- Balanced

SIMMS INTEGRATED MATHEMATICS (9-12)

- Created to reach all High School students
- Engaging, real-world explorations
- Originally funded by the NSF



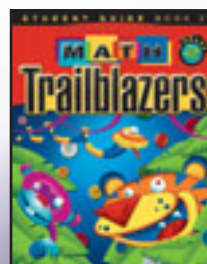
PROJECT M3 (TALENTED AND GIFTED) (2-6)

- Developed to motivate and challenge mathematically promising students
- Research-based with U.S. Department of Education funding
- Award winning (National Association of Gifted Children Curriculum Studies Award)



MATH TRAILBLAZERS (PRE-K-5)

- New 3rd Edition
- Balanced, K-5 research-based program
- Integrates science and language arts
- Originally funded by the NSF
- Real-world problem solving



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83

Developing Fractional Thinking in Early Grades: Do Models and Varied Representations Matter?

(PreK–5, Higher Education, Teacher of Teachers)
Research Session

The presenters will share findings from a study of early fraction concepts in grades K–3 students. Classroom-tested lessons will be shared that connect best practices to appropriate selection and implementation of models and representations that facilitate understanding for all students. Implications for learning and teaching will be discussed.

Trena Wilkerson

Baylor University, Waco, Texas

Sandi Cooper

Baylor University, Waco, Texas

Susan Cooper-Twamley

Baylor University, Waco, Texas

Mark Montgomery

Robinson Junior High School, Robinson, Texas

Betty Ruth Baker

Baylor University, Waco, Texas

Pat Sharp

Baylor University, Waco, Texas

Constitution B (Hyatt) capacity: 196

84

Wild about Measurement!

(3–5) Session

This session will introduce a participatory mathematics fair where intermediate school students plan measurement activities and host the event for primary school students. Gain insight into the pedagogy of measurement and the NCTM Standards, engage in hands-on activities, and receive instructions for implementing a measurement fair at your school.

Susan Staylor Vohrer

Maryland Council of Teachers of Mathematics, Baltimore, Maryland

140 A (Convention Center) capacity: 154

85

Building a Bridge for All Students to be Successful in Algebra and Beyond

(3–5) Session

This session will focus on specific strategies that teachers can incorporate to make mathematics relevant and comprehensible for all students, including at-risk, under-motivated, and English language learners. Some of the topics to be explored include the use of alternative algorithms, families of equations, and concrete models for variables.

Barbara Post

California State University Fullerton, Fullerton, California

Juanita R. Walker

Santa Ana Unified School District, Santa Ana, California

151 B (Convention Center) capacity: 284

86

Contributions of Cultures to Algorithms

(3–5) Session

During this session, connections between algorithms (sometimes called alternative algorithms) and the country of origin will be explored, along with a brief history of how the algorithms came to be. The speakers will also focus on helping children from other cultures connect to the contributions of their ancestors to the world of mathematics.

Judy Werner

Slippery Rock University, Slippery Rock, Pennsylvania

Kim Creasy

Slippery Rock University, Slippery Rock, Pennsylvania

204 C (Convention Center) capacity: 135

87

Bees, Bats, Bugs and Connections to the Elementary School Classroom

(3–5) Session

Bees, bats, and bugs provide an interesting context in which to study mathematical concepts. This session will (1) use a TI-ranger to simulate echolocation, (2) learn why bees build hexagonal-shaped honeycombs, (3) model the family tree of bees using Fibonacci sequences, and (4) determine how far a human-sized grasshopper could jump.

Brian Douglas Sharp

Indiana University of Pennsylvania, Indiana, Pennsylvania

Janet M. Walker

Indiana University of Pennsylvania, Indiana, Pennsylvania

209 A (Convention Center) capacity: 107

88

Divide and Conquer: Making Sense of Long Division

(3–5) Session

The Focal Points include understanding the standard algorithm for division in grade 5. What does making sense of this procedure mean? Participants will explore long division through the sharing meaning for division, base-ten blocks to connect the sharing meaning to the algorithm, and the area model as they divide and conquer this elusive algorithm.

Juli K. Dixon

University of Central Florida, Orlando, Florida

Meeting Room 12/13/14 (Renaissance) capacity: 90

89

Reasoning at Two Hierarchical Levels Simultaneously: Children's Difficulty with Elapsed Time and Giving Change

(3–5) Research Session

When asked about the duration between 6:40 and 9:15, many grades 2–5 students answer “3 hours 55 minutes,” separating hours and minutes (from 6:00 to 9:00 is 3 hours, + 40 + 15 minutes). Even in fifth grade, only about 20 percent deal with hours and minutes simultaneously at two hierarchical levels (6:40, 8:40 is 2 hours, + 20 + 15 minutes).

Constance Kamii

University of Alabama at Birmingham, Birmingham, Alabama

202 B (Convention Center) capacity: 418

90

Teaching Conceptually: Strategies That Create Access for Diverse Learners

(3–5, Teacher of Teachers) Session

Collaborative lesson design creates opportunities for English learners to develop conceptual understanding of primary mathematical ideas. A filmed lesson will illustrate effective practices including the use of questions and tasks that develop and deepen each student's thinking.

Andrew Ellsworth Jenkins

Los Angeles Unified School District, Los Angeles, California

Mark Stephen Duncan

Los Angeles Unified School District, Los Angeles, California

Meeting Room 5 (Renaissance) capacity: 58

91

Alternative Algorithms

(3–8) Session

What do you do if the “traditional method” for solving math problems does not work with your students? Learn how alternate algorithms can help the nontraditional student. See how the Indiana Mathematics Initiative has helped teachers and students tackle this issue.

Sharon Koch

Saint Catherine of Siena School, Hammond, Indiana

102 A (Convention Center) capacity: 144

Visit **www.nctm.org** for lessons, activities, and teacher resources!

92

So Many Graphs, So Little Time!

(3–8, Higher Education) Session

Texts, media, and high-stakes tests require the ability to read many types of graphs. Learn how to use class time efficiently by helping students understand a few main categories of graphs as a means of dealing with any graph they come across. Explore the connections between old and new graphs and discuss the reasoning involved in each category.

Christine C. Benson

Northwest Missouri State University, Maryville, Missouri

Jennifer J. Wall

Northwest Missouri State University, Maryville, Missouri

156 (Convention Center) capacity: 156

93

Using Assessment as a Springboard for Effective Instruction

(3–8, Teacher of Teachers) Session

This session will address approaches to constructing objective assessments that help teachers enhance math instruction and understand students' misconceptions. Attendees will analyze tests and develop plausible distracters in selected-response items in order to have extrinsic ambiguity items along with high reliability and validity.

Shuhua An

California State University, Long Beach, Long Beach, California

144 C (Convention Center) capacity: 156

94



Forty-Five Years of International Comparisons in School Mathematics: What Have We Learned?

(3–12) Session

International studies of students' mathematics performance, given acronyms such as SIMS, IAEP, TIMSS, and PISA, have been undertaken since the 1960s. Performance in these studies has been used by policy makers both to accelerate and to quash reform. This talk discusses what we have learned from these studies and from public reactions to them.

Zalman Usiskin is a professor emeritus of education at the University of Chicago and has been the overall director of the University of Chicago School Mathematics Project since 1987. His research has focused on the teaching and learning of arithmetic, algebra, and geometry, with particular attention to applications of mathematics at all levels and the use of transformations and related concepts in geometry. He is the author or coauthor of more than 150 articles and other papers on mathematics and mathematics education, and he has taught mathematics in nine different secondary schools.

Zalman Usiskin

University of Chicago, Chicago, Illinois

Grand Ballroom South (Renaissance) capacity: 430

95

Come Wii™ with Mii! Mathematics and Wii™, Working Together

(3–12, Teacher of Teachers) Session

Engaging students in meaningful and fun mathematics can be accomplished using the Nintendo Wii in a multidisciplinary unit using differentiated instruction for grades 3–12. Watch your students transform into researchers who design unique experiments, collect and analyze data, and then professionally report their findings.

Christina L. Gawlik

Kansas State University, Manhattan, Kansas

103 B (Convention Center) capacity: 164

96

Sense-Able Symbols: Algebra for All Students

(6–8) Session

The speaker will explore the use of rich mathematical tasks that offer opportunities for success in algebra for all students. She will discuss teaching practices that involve active learning and foster students' development of algebraic thinking—including the use of meaningful symbolic representation. Materials will be provided.

Lynn D. Tarlow

City University of New York—City College, New York, New York

203 A/B (Convention Center) capacity: 150

97

It's Electric! The Slide and Other Transformations

(6–8) Session

Participants will engage in activities used with middle school students to explore concepts of symmetry and rigid transformations. Interdisciplinary connections will include social studies, writing, and the arts. Bring your dancing shoes!

Tina Pateracki

Educational Resources Group, Bluffton, South Carolina

Independence F/G (Hyatt) capacity: 120

98

Can Findings from a Homework Hotline Tutor Study Electrify Teaching?

(6–12) Session

Fifty engineering students who receive many calls per week on a Homework Hotline answered questions posed by teacher educators, including “If you wrote a letter to teachers, what would be your top five suggestions?” This session will focus on detailed analysis of the results, tutors' suggestions, weak content areas, and implications for teaching.

Amanda N. Davis

Saint Mary-of-the-Woods College, Terre Haute, Indiana

Renaissance West A (Renaissance) capacity: 162

99

The Mathematics of *The DaVinci Code* and other Dan Brown Novels

(6–12) Session

Topics suggested by Dan Brown's novels—such as cryptography, Fibonacci numbers, the golden ratio, Leonardo's inventions, perspective drawing, math in works of art, and symmetry—will be presented. Most topics are appropriate for many levels or types of math courses, encouraging interest in math topics by all types of students.

Scott D. Oliver

Adlai E. Stevenson High School, Lincolnshire, Illinois

Auditorium (Renaissance) capacity: 282

100

The History of the Evolution of Twentieth-Century American Women in Mathematical Sciences

(6–12, Higher Education) Session

This session will overview the historical events of the late nineteenth and early twentieth centuries that allowed American women to pursue their intellectual interests and passions freely and pass that determination and drive down to future generations of women in mathematical sciences.

Eva Gabrielle Sagan

Indiana Institute of Technology, Fort Wayne, Indiana

147 B (Convention Center) capacity: 255

101

Conic Sections: High Tech and Low Tech

(9–12) Session

Students can learn the properties of conic sections by actual measurement on accurate, computer-generated graphs.

Paul A. Foerster

Alamo Heights High School, San Antonio, Texas

146 A (Convention Center) capacity: 423

The Bad News

The Final Report of the National Mathematics Advisory Panel noted that many students "have difficulty grasping the syntax or structure of algebraic equations and do not understand the procedures for transforming equations or why transformations are done the way they are."

The Good News

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Friday, 10:00 a.m. - "Do verbal problems scare the daylights out of your students?" - Room 144A

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102**Using Games as Review****(9–12) Session**

Come play some never-seen-before, not-from-a-book math games that can be used as an exciting, informal assessment tool before a test—Search for Gold, Math Grand Prix, and more. Audience participation will be required, but there will be prizes! This session will also focus on how to customize these games to your own specific needs.

Ellen Corinne Thompson

College Sturgeon Heights Collegiate School, Winnipeg, Manitoba, Canada

152 B (Convention Center) capacity: 262**103****Accessing the Pathway to Algebra****(9–12) Session**

The speaker will model activities designed for ninth-grade, Mexican-American students not meeting state assessment standards and needing intervention. Six algebra objectives were taught using a language-supported curriculum incorporating strategies, a buddy system, manipulatives, vocabulary building, concept maps, and parents' involvement.

Sylvia R. Taube

TODOS, Mathematics for ALL; Sam Houston State University, Huntsville, Texas

158 A/B (Convention Center) capacity: 137**104****Using a Computer Algebra System (CAS) to Provide Equal Access to Algebra for All Students****(9–12) Session**

Faced with a school-district mandate to have all high school students complete an algebra curriculum, a group of high school teachers decided to have their underperforming students use a CAS in their prealgebra and algebra classes. This is the story of their journey and the dramatic impact it has had on their students.

Larry Osthus

Consultant, Des Moines, Iowa

Renaissance West B (Renaissance) capacity: 162**105****Conjecturing and Proving in a Dynamic Geometry Environment****(9–12) Research Session**

Dynamic geometry systems have impact on the process of producing conjectures and proofs in Euclidean geometry. This study has revealed particular forms of reasoning that seem to be induced by certain uses of tools available in Cabri. These results have implications for classroom teaching and curriculum development.

Anna Baccaglini-Frank

University of New Hampshire, Durham, New Hampshire;
Università degli Studi di Siena, Siena, Tuscany, Italy

150 B (Convention Center) capacity: 248**106****Professional Development Triad in Elementary School Mathematics Teacher Preparation****(Higher Education, Teacher of Teachers) Session**

This session will describe the benefits of connecting preservice teachers with elementary school students during content and methods courses. The unusual aspects of the courses will be outlined and artifacts will be shared. Participants will also be asked to share experiences working across courses, across colleges, or with local schools.

Megan Burton

University of South Carolina, Columbia, South Carolina

Debra Geddings

University of South Carolina, Columbia, South Carolina

Cabin John/Arlington (Hyatt) capacity: 88**107****Collaboration and Coteaching: Teachers of Mathematics and of the Learning Disabled, Together****(Higher Education, Teacher of Teachers) Session**

This session will discuss the development and implementation of, and results from, a course jointly designed by a math education professor and a teacher education professor that helps math teachers and special educators understand the role that each plays in the collaboration.

Cheryl Nilsen

Minot State University, Minot, North Dakota

Rebecca L. Anhorn

Minot State University, Minot, North Dakota

146 C (Convention Center) capacity: 414**Come, Connect, Communicate****Grades PreK–2**

Meet with educators who share your interests to discuss how we improve teaching and learning in grades PreK–2. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)



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at their popular presentations – see this program for details.

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9:30 a.m.–10:30 a.m.

Come, Connect, Communicate**Teacher Education**

Meet with educators who share your interests to discuss how to improve teaching and learning related to teacher education. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

10:00 a.m.–11:00 a.m.

Exhibitor Workshop 5**Kendall/Hunt Publishing Company****Reaching Full Potential in Your Gifted Math Students with M3**

Help your students assume the role of mathematicians as they develop critical and creative thinking skills in solving real problems. Project M3: Mentoring Mathematical Minds program is challenging and enjoyable.

*Room 143 A (Convention Center)***Exhibitor Workshop 6****Pearson****CMP2: An Award-Winning Middle School Math Program**

Review CMP2 through the criteria of the International Society for Design and Development in Education award. (Grades 5–8)

*Room 143 B (Convention Center)***Exhibitor Workshop 7****Damand Promotions****Parent Involvement with Math Homework (available in 10 languages)**

The Parent's Homework Dictionary will help parents understand homework in grades K–12. This book and support material presents each concept in an easy to understand format with easy to follow examples.

*Room 143 C (Convention Center)***Exhibitor Workshop 8****Borenson and Associates, Inc.****Cracking the Code of Algebra, or Cracking One's Head on Algebra?**

How does Hands-On Equations® enable 80 percent of inner-city fourth graders to have success with such basic equations as $4x + 3 = 3x + 10$? If algebra is a foreign language to your students, this session is for you. (Grades 3–9)

Room 144 A (Convention Center)

10:30 a.m.–12:00 noon

108**Hey, That's Not Fair: Problem Solving through Social Justice****(General Interest) Gallery Workshop**

Can a vision of social justice guide a problem-based curriculum? Join a teachers' collaborative in adult basic education, to consider problem solving as an issue of educational equity. Explore nonroutine problems that pose the central question of social justice: Is it fair? View a class video. Handouts will be available.

Solange Farina

New York City Math Exchange Group, New York, New York

Denise Deagan

Borough of Manhattan Community College, New York, New York

Charles Brover

BEGIN Managed Programs, New York City, New York

102 B (Convention Center) capacity: 204**109****Mathematics + Equity = Achievement in Numbers: Bridging the Gap between Special and General Educators in Mathematics****(General Interest) Gallery Workshop**

How important is collaborative dialogue between special and general educators in increasing mathematics performance? This session will focus on how to build a collaborative learning community that engages in shared responsibility and data-driven instructional planning to make mathematics education accessible for all students.

Aqila S. Waheed

Prince George's County Public Schools, Upper Marlboro, Maryland

Lisa Powell Green

Prince George's County Public Schools, Upper Marlboro, Maryland

Congressional Hall B (Renaissance) capacity: 132

Jefferson Memorial at Night. © Destination DC. All rights reserved.

110

Mathematical Readiness: Laying the Groundwork for Young Children's Mathematical Powers

(PreK–2) Gallery Workshop

Explore different strategies that foster the development of children's mathematical thinking—prenumber concepts, counting, numeracy, and operations. Participants will develop materials and meaningful activities that facilitate the transition from learning mathematics at the concrete stage to symbolic representation.

Eleanor A. Pobre

Southwest Minnesota State University, Marshall, Minnesota

Constitution A (Hyatt) capacity: 180

111

Creating "Tubenspiels:" Hands-on Mathematics and Music

(PreK–8) Gallery Workshop

Use exponential equations, scale factors, and careful measurement to create musical instruments. Electrical conduit cut to specific lengths produces musical tones. Middle schoolers can calculate pipe lengths. Kindergarteners find frame sticks. Together, they will measure and cut the pipes to produce a playable musical instrument.

David Lowther

Park School of Baltimore, Baltimore, Maryland

Jo Anne Yamaka

Park School of Baltimore, Baltimore, Maryland

Independence B/C (Hyatt) capacity: 95

THURSDAY

Zillio Mini Mountain



Zillio is a colorful, durable, rotating playground. Standards based math games help children learn and practice 10 essential math skills (**Pre K - 6th**). Naturally motivated by the play itself children strive, take risks and step up their skills to succeed. Valuable for children ages 4–12.

Children deepen conceptual understanding and make connections between:

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- Division
- Number lines
- Equivalency
- Addition
- Multiplication
- Fractions
- Ratios
- Algebra

We will be doing product demos in Nasco booth 1638. Visit www.zillio.com for the schedule of events.

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112

Challenging Teacher Researchers' Minds to Understand Children's Thinking**(PreK–2, Teacher of Teachers) Gallery Workshop**

Find the way to develop algebraic thinking at an early age. Learn to make your own decisions. Participants will work with manipulatives (rekenrek), to use research-based, field-tested activities and games in real-life context. Attendees will see video clips about children's learning. Manipulatives and handouts will be provided.

Judit Kerekes

City University of New York—College at Staten Island,
Staten Island, New York

146 B (Convention Center) capacity: 340

113

Functions, Multiplication, Focal Points: Grades K–5 Study of Functions as a Context for Work on Multiplication**(PreK–5) Gallery Workshop**

The speakers will share cases of students in grades 1–4 working on activities that address linear functions. They will examine the mathematical concepts students confront, consider how they relate to the core ideas of an elementary school curriculum, and discuss them in the context of the NCTM *Curriculum Focal Points* document.

Deborah Schifter

Education Development Center, Newton, Massachusetts

Virginia Bastable

Mount Holyoke College, South Hadley, Massachusetts

Susan Jo Russell

TERC, Cambridge, Massachusetts

Grand Ballroom Central (Renaissance) capacity: 337

114

Basic Number Combinations or Basic Math Facts: Which Is It?**(3–5) Gallery Workshop**

Can't we just have them memorize? The answer is no! Come experience the three phases of basic computation development—(1) making sense of number and operation and counting strategies, (2) strategic reasoning, and (3) working toward recall.

Nelson Palmer

Frederick County Public Schools, Frederick, Maryland

Elaine Lazzaro

Frederick County Public Schools, New Market, Maryland

Kim Stewart

Frederick County Public Schools, Walkersville, Maryland

Michele Pickens

Frederick County Public Schools, Frederick, Maryland

145 A (Convention Center) capacity: 244

115

Building Computational Fluency in the Intermediate Grades Using Multiple Representations**(3–5) Gallery Workshop**

Examine the purposeful use of concrete, pictorial, verbal, and symbolic representations as well as important strategies for building computational fluency. Games and activities for immediate classroom use will be provided.

Sandra L. Atkins

ORIGO Education, Saint Charles, Missouri

151 A (Convention Center) capacity: 291

116

Algebraic Thinking through Hands-On Activities**(3–5) Gallery Workshop**

Learn ways to use balance scales, pattern blocks and tiles, data tables, equations, and graphs to provide opportunities for your students to think algebraically. By making connections and building relationships between manipulatives and numbers, students will develop ways of thinking that foster success in future algebra courses.

Elaine Susan Mechler

Hutto Independent School District, Hutto, Texas

Karen Rhynard

Consultant, Round Rock, Texas

152 A (Convention Center) capacity: 226

117

Animated Puppets, Mechanisms, and Mathematics: Seeing Direct and Inverse Proportions**(3–5) Gallery Workshop**

Puppets, animated by a system of linkages, are intriguing contexts to learn about direct proportions. Participants will design their own mechanical puppets and then redesign them using further knowledge of the direct proportions involved. Using similar materials, participants will then explore the inverse proportional relationships of levers.

James L. Neujahr

City College of New York, New York, New York

159 A/B (Convention Center) capacity: 109

118

Bit by Bit, Day by Day: Number Sense Grows**(3–5) Gallery Workshop**

Participants will engage in interactive classroom activities that are designed to increase students' flexibility and confidence in working with numbers. Students' work samples will highlight the NCTM Process Standards.

Amy C. Mayfield

Marilyn Burns Education Associates, Sausalito, California

Grand Ballroom North (Renaissance) capacity: 340

119

Computational Fluency: A Goal for All Students**(3–5) Gallery Workshop**

Participants will be engaged in activities that support the development of computational fluency in intermediate school students. Ideas for centers, games, and differentiation will be shared. Discussions will focus on number sense and basic fact development.

John San Giovanni

Howard County Public Schools, Ellicott City, Maryland

Independence H/I (Hyatt) capacity: 95

120

Get into Shapes! Geometry Sense through Problem Solving**(3–5) Gallery Workshop**

This session will encourage teachers to use multiple research-based approaches that enable students to have a deeper understanding of geometry, manipulatives, visual thinking, and open-ended questioning techniques. Participants will leave with a portfolio of activities to be integrated into their geometry curriculum.

Lynda A. Luckie

Gwinnett County Public Schools (Retired), Suwanee, Georgia

Meeting Room 8/9 (Renaissance) capacity: 60

121

Come to a Student-Led Math Night—Today!**(3–8) Gallery Workshop**

Experience a student-led “Math Night” during this workshop as local students demonstrate a variety of activities, answer questions, and reflect on the process of planning and leading a Math Night at their school. Handouts include activity ideas, resources, and practical suggestions for starting a new school tradition.

Wendy Petti

Math Cats; Washington, D.C.; Washington International School, Washington, D.C.

Independence D/E (Hyatt) capacity: 95

122

Using Manipulatives to Explore Properties of Polygons**(3–8) Gallery Workshop**

Misconceptions about geometric concepts can be avoided by teaching with appropriate concrete experiences. Participants will explore the teaching of deep understanding of concepts by using manipulatives such as rope, spaghetti, and geostrips.

Dana T. Johnson

College of William and Mary, Williamsburg, Virginia

Marguerite Mary Mason

College of William and Mary, Williamsburg, Virginia

140 B (Convention Center) capacity: 125

123

If the World Were a Village: A Lesson in Cultural Pedagogy**(3–8, Teacher of Teachers) Gallery Workshop**

One hears of a universal language of math, but gender, ethnicity, socioeconomic status, and nation of origin influence success in class. Explore a lesson based on *If the World Were a Village* that aims to sharpen awareness to one's position in global society. Explore culturally specific pedagogy and differentiated instruction.

Mary Elizabeth Baker

North Dakota Council of Teachers of Mathematics;

University of North Dakota, Grand Forks, North Dakota

147 A (Convention Center) capacity: 243

124

Taking the “Testiness” out of State Standards-Based Testing**(6–8) Gallery Workshop**

This workshop focuses on the creation of theme-based, comprehensive reviews for end-of-year state assessments. Themes include “Cruisin’ thru Math” and “The Mathematics Road Trip.” The workshop will include instructional strategies, hands-on activities, and planning tools to help make your review sessions appropriate and successful for all learners.

Clara Hauth-Pflugrath

Fairfax County Public Schools, Fairfax, Virginia

Jo-Anne Carra

Franklin Middle School, Chantilly, Virginia

Linda Gillen

Franklin Middle School, Chantilly, Virginia

154 A/B (Convention Center) capacity: 162

10:30 a.m.–12:00 noon

125

NASA Smart Skies: Navigate Students through $D = R * T$

(6–8) Gallery Workshop

Explore distance-rate-time 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 W. Condon

NASA Ames Research Center, Moffett Field, California

Miriam Landesman

NASA Ames Research Center, Moffett Field, California

Constitution C/D/E (Hyatt) capacity: 200

126

Nim and Sprouts: Using Strategic Games to Discuss Problem Solving

(6–12) Gallery Workshop

These pencil-and-paper games will capture students' attention and imagination and are great for using in an extra 10 minutes at the end of class or to build a miniunit around. Participants will discover strategies for winning the games and make connections to a variety of mathematical topics, including modular arithmetic and binary numbers.

Sean Foley

Thomas Jefferson High School, Bloomington, Minnesota

103 A (Convention Center) capacity: 232

Visit the **NCTM Member Showcase** to pick up activities, lessons, and sample journals to use in the classroom.

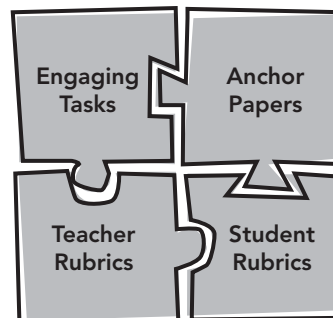


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127

Phototechnology and Teaching Mathematics: Examples from an Euler Tour (6–12) Gallery Workshop

From a photo overview of the Mathematical Association of America 2007 Euler tour to Saint Petersburg, Basel, and Berlin, we will encourage participants to develop secondary school mathematics lessons derived from Euler's work. While working on lessons, take photos and learn how to create a photobook to share with colleagues and students.

Victor Katz

University of the District of Columbia, Washington, D.C.

Phyllis Katz

Hands On Science Outreach (Retired), Silver Spring, Maryland

207 A (Convention Center) capacity: 339

128

Simulation, Sampling, Sensors, Statistics, and the Mathematical Sciences (9–12) Gallery Workshop

Presidents' Series presentation

Participate in demos and investigations using real data, both scientific and mathematical. Participants will have the opportunity to analyze the data and see connections to high school Algebra 1, Algebra 2, statistics, precalculus, and calculus. TI-Nspire, vernier probes, and Fathom will be used by all. Optional: bring a laptop with battery power.

David Kapolka

President, Council of Presidential Awardees in Mathematics; Key Curriculum Press, Alto, Michigan

101 (Convention Center) capacity: 170



129

Every Picture Tells a Story (9–12) Gallery Workshop

Every picture tells a story. Let that story be mathematical. Join the speakers for a panorama of activities, projects, contests, and assessments that use students' interest in the Internet, video, and digital images to discover and communicate mathematical ideas. The activities guide students to view the world with a mathematical eye.

Chris Rumsey Mackmin

Braden River High School, Bradenton, Florida

Victoria Mitchell

Braden River High School, Bradenton, Florida

150 A (Convention Center) capacity: 226

130

Testing Anyone? Hypothesis Tests Made Easy with Hands-On Experimental Design Activities

(9–12) Gallery Workshop

Learn successful anchor activities for experimental design, hypothesis testing, and more to use in AP Statistics. Experience hands-on activities, and motivate your students. Discover high- and low-tech ways to improve students' performance with Fathom, TI-Navigators, Teddy Grahams, cookies, and more. Integrate questioning strategies for assessment.

Viva Marie Hathaway

Norview High School, Norfolk, Virginia

201 (Convention Center) capacity: 326

131

You Cross the Pole to Go from Pembina to Paris?

(9–12) Gallery Workshop

People live on planet Earth, a sphere, yet they most often take a planar approach to geometry and rarely consider how geometry on a sphere might produce different results. The speaker will use the Lénárt sphere to examine geometric concepts on the sphere and discover why we cross the North Pole traveling from Pembina, North Dakota, to Paris, France.

Michele Iiams

University of North Dakota, Grand Forks, North Dakota

204 A/B (Convention Center) capacity: 227

132

Calculus Activities Using TI-Nspire™ (9–12, Higher Education) Gallery Workshop

In this session, attendees will use TI-Nspire handheld calculators to complete activities involving concepts typically covered in Calculus 1. Activity worksheets will be provided. Comparisons among the two types of TI-Nspire (one with a computer algebra system and one without) and other handhelds (TI-89, TI-83, TI-84) will be discussed.

Marlena Herman

Rowan University, Glassboro, New Jersey

208 A/B (Convention Center) capacity: 95

10:30 a.m.–12:00 noon

133

Use Continuous, Classroom-Level Assessment to Differentiate Instruction and Meet Each Student's Individual Needs (9–12, Teacher of Teachers) Gallery Workshop

Participate in activities that illustrate a variety of methods that can be used to collect on-the-fly assessment data during a lesson. Discuss how the data can be used to determine individual students' needs. Learn how differing instructional modes and multiple-level questioning can allow a teacher to offer individualization during any lesson.

Allan Bellman

University of California, Davis, Davis, California

144 B (Convention Center) capacity: 96

134

Algebra, Functions, and Technology (9–12, Teacher of Teachers) Gallery Workshop

Explore how carefully sequenced, technology-enhanced activities can help deepen students' understanding of algebraic concepts. We'll use graphing calculators and probes to develop functions at a fundamentally deeper level.

Jerald Murdock

Key Curriculum Press, Emeryville, California

Elizabeth DeCarli

Key Curriculum Press, Emeryville, California

206 (Convention Center) capacity: 323

135

Unraveling the Technicolor Coat of Mathematics, Problem by Problem (Teacher of Teachers) Gallery Workshop

To illuminate the connective structure of the grades K–12 mathematics cloth, participants will explore selected problems from different grade levels and threads of mathematics, examine prerequisite skills for a problem, and project future mathematical development from that problem.

Sue Harding

Kalispell Middle School, Kalispell, Montana

Larry Kaber

Flathead Valley Community College, Kalispell, Montana

202 A (Convention Center) capacity: 368

11:00 a.m.–12:00 noon

136

International Perspectives: Learning from and with Our Colleagues from around the World at ICME 11

(General Interest) Session

A team of mathematics educators from the United States, recipients of NCTM–National Science Foundation travel grants, attended the 11th International Congress on Mathematics Education (ICME-11) in Monterrey, Mexico in July, 2008. Team members will discuss the experiences, new understandings, and implications for practice that they took home.

Cindy Chapman

Retired, Albuquerque, New Mexico

Patrick Scott

New Mexico Public Education Department, Santa Fe, New Mexico

Gail Burrill

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

147 B (Convention Center) capacity: 255

137

Learning to Think about Mathematical Learning: A Story of Research That Tries to Guide Educational Practice

(General Interest) Session

This session, devoted to the work of Anna Sfard, will be organized as a conversation between two generations of researchers. While Sfard tells a story of her research and shares the lessons learned, Nathalie Sinclair will challenge her with questions about this particular body of work and research in mathematics education at large.

Anna Sfard

University of Haifa, Haifa, Israel

Nathalie M. Sinclair

Simon Fraser University, Burnaby, British Columbia, Canada

207 B (Convention Center) capacity: 426



138

With an Eye on the Mathematical Horizon: Knowing Mathematics for Teaching

(General Interest) Session

What “horizon knowledge” of mathematics is involved in making wise pedagogical judgments about what is mathematically important? Three core tasks of teaching will be investigated: making connections, taking care with definitions and language, and attending to the necessary features of mathematical explanations and proofs at a given level.

Deborah Loewenberg Ball

University of Michigan, Ann Arbor, Michigan

Ballroom A (Convention Center) capacity: 1442

139

Beyond Topics: Some Organizing Principles for a Coherent Approach to Algebra

(General Interest) Session

Internet navigation, spreadsheet use, financial decisions, and cell phone programming all require the abilities to reason about calculations, develop algorithms, use symbols, and describe relationships. These skills are core to algebra and are often missed by specifying course content through lists of topics. Participants will look at alternatives.

Al Cuoco

Center for Mathematics Education, Education Development Center, Newton, Massachusetts

Independence A (Hyatt) capacity: 800

140

A Standards-Aligned System for Grades K–12 Mathematics

(General Interest) Session

A standards-aligned system is a set of resource components that are interconnected to one another and reflect alignment to a set of academic standards. This session will detail the system in mathematics in Pennsylvania, all its components, and the implementation and professional development implications of creating this system.

Jim Bohan

Lancaster-Lebanon Intermediate Unit 13, Lancaster, Pennsylvania

Leslie Trimmer

Pennsylvania Department of Education, Harrisburg, Pennsylvania

Tracy Ficca

Pattan Technical Training Center, Harrisburg, Pennsylvania

Independence F/G (Hyatt) capacity: 120

141

Algebra Activities for Every Child in the Early Childhood Years

(PreK–2) Session

Learning about patterns is natural for every child as he or she works with resources and recognizes repeating and growing patterns. This session describes a rich mathematics environment including appropriate algebra activities involving patterns, change, and equivalence to support a strong foundation of the basic ideas of algebra.

Rosemary Reuille Irons

Queensland University of Technology, Brisbane, Queensland, Australia

152 B (Convention Center) capacity: 262

LOR 142

Comienzo De la Matemáticas: Providing Children at the Tijuana Dump with Hope for a Better Future

(PreK–2, Higher Education, Teacher of Teachers) Session

In the “dump” of Tijuana, Mexico, children as young as two years of age were picking up glass to help provide income for their families until Responsibility, Inc., helped defeat all odds. Our graduates of kindergarten enter public schools above grade level. The fruits of Comienzo De la Matemáticas program will be presented.

Marilyn K. Simon

Walden University, Del Mar, California

209 B/C (Convention Center) capacity: 213

THURSDAY

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LOR 143

Helping Disadvantaged U.S. Kindergarten Children Understand Place Value Like East Asian Children**(PreK–2, Teacher of Teachers) Session**

Kindergarten children from backgrounds of poverty learned place value for teen numbers as part of a half-day math program. On multiple interview items they performed as well as East Asian children. Children's learning paths will be described.

Karen Fuson

Northwestern University (Emerita), Fallbrook, California

146 A (Convention Center) capacity: 423

144

**Using Assessment to Guide Grades K–6 Mathematics Instruction: A Focus on Number and Operations (PreK–5, Teacher of Teachers) Session**

This session focuses on techniques teachers can use to assess students' understanding and skills in number and operations, with an emphasis on integrating computation, problem solving, and number sense.

Marilyn Burns is the founder of Math Solutions Professional Development, dedicated to the improvement of students' learning in grades K–8 mathematics through in-service programs, professional resource books, and staff development videotapes. A former classroom teacher, Burns has written numerous professional books for teachers, developed staff development videos that show actual lessons taught to students in grades K–8 classrooms, and published articles in various educational publications. She still teaches, currently fifth grade, on a part-time basis.

Marilyn Burns

Math Solutions Professional Development, Sausalito, California

Ballroom B/C (Convention Center) capacity: 2512

145

Yes, You Need a Common Denominator: But Do You Know Why?**(3–5) Session**

Examine students' thinking and examples of common misunderstandings about fractions. Focus on activities to help students develop a deep understanding of fraction concepts. This session will focus on different representations of fractions concepts, ways to connect representations, and the use of calculators to develop students' understanding.

William B. Weber

University of Toledo, Toledo, Ohio

Congressional Hall A (Renaissance) capacity: 198

146

Get Them into the Ball Park! Using Estimation as a Means to Help Students Determine Reasonableness**(3–5) Session**

How do teachers get students to use estimation as a critiquing strategy instead of a step in computation? Explore estimation strategies as a tool to help students develop approximation skills leading to fluent and flexible thinking. Participants will explore the language of estimation and analyze students' work that shows the use of estimation.

Melissa E. Hedges

Milwaukee Public Schools, Milwaukee, Wisconsin

Beth Ann Schefelker

Milwaukee Public Schools, Milwaukee, Wisconsin

Renaissance West A (Renaissance) capacity: 162

147

Exploring the Practices of Successful Teachers of African American Children**(3–5) Research Session**

When classrooms provide familiar cultural contexts, meaningful learning is more likely to occur, and accessibility to higher-order thinking skills is increased. This interconnection of culture and cognition will be explored through the practices of two teachers who have had tremendous success in developing culturally responsive methods.

Emily Peterek

University of Florida, Gainesville, Florida

Cabin John/Arlington (Hyatt) capacity: 88

148

Optical Topography of Evoked Brain Activity During Mental Tasks Involving Whole-Number Operations**(3–5, Higher Education) Research Session**

Functional neuroimaging studies have begun to clarify how the human brain performs calculations. Optical Topography (helmet-type brain-scanning system) was used to study the specific neural networks dedicated to perform mental calculations. The presentation will involve videos and a discussion of findings.

Enrique Ortiz

University of Central Florida, Orlando, Florida

209 A (Convention Center) capacity: 107

Helping Diverse Learners Thrive in Inquiry-Based Mathematics Instruction: Good Instruction, Plus a Little More

(3–5, Teacher of Teachers) Session

“Inquiry-based instruction is okay for some, but what about my ____ students?” Labels of English language learner, learning disabled, multicultural, and struggling learners often fill the blank. This session analyzes points in lessons where diverse learners may encounter difficulty and offers suggestions to help them thrive in inquiry environments.

Eula Ewing Monroe

Brigham Young University, Provo, Utah

Damon L. Bahr

Brigham Young University, Provo, Utah

Nancy Wentworth

Brigham Young University, Provo, Utah

145 B (Convention Center) capacity: 278

Evolution of the Math Coach

(3–5, Teacher of Teachers) Session

Math specialists/coaches will share how the role of the mathematics specialist continues to evolve into a coaching role. How does one progress from a classroom teacher to resource provider to serve eventually as a coach for colleagues? How do our coaches work with teachers at every level? How does that translate into students' achievement?

Rebecca Parker

Stafford County Public Schools, Fredericksburg, Virginia

Susan Sydla

Stafford County Public Schools, Stafford, Virginia

Branch Pronk

Stafford County Public Schools, Stafford, Virginia

Lafayette Park (Hyatt) capacity: 78



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*The Math Forum is a research and educational enterprise of the Drexel School of Education

LOR 151**Challenge for All: Meeting the Needs of Strong Mathematics Students in Mixed-Ability Classrooms****(3–8) Session**

Learn how to challenge your strong mathematics students successfully using ongoing assessment, rich mathematical tasks, opportunities for students' choice, tiered assignments, curriculum compacting, and learning contracts. The speaker will illustrate and discuss strategies for differentiating instruction, using examples from a fourth-grade class.

Wendy Bray

Rollins College, Winter Park, Florida

203 A/B (Convention Center) capacity: 150

LOR 152**Tools for Equity: Ethnomathematics and the Focal Points****(3–8) Session**

The combination of NCTM's Focal Points and mathematical topics from history and culture can be used to interest, excite, and teach all students. Examples will be provided that can be used with reform and traditional curriculum materials. Particular emphasis will be given to materials of interest to traditionally underperforming groups.

William Collins

Le Moyne College, Syracuse, New York

151 B (Convention Center) capacity: 284

153**How Do We Know What Our Students Understand? Assessing English Language Learners (ELLs)****(3–8, Teacher of Teachers) Session**

Our ELLs are typically tested in English, even though they do not read or write well in that language. If they get a math question wrong, is it because they did not understand the English words or because they did not understand the math? This session will examine potential difficulties and propose possible solutions.

Suzanne Weinberg

University of Arizona, Tucson, Arizona

Auditorium (Renaissance) capacity: 282



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Booth # 1515

LOR 154**The Voces Project: Understanding How Latino/Latina Students Make Sense of Engaging in Middle School Mathematics****(6–8) Session**

This research addresses how culture, minority status, and school structure affect Latino/Latina students' engagement in middle school mathematics. Data collected from interviews with Latino/Latina students and parents is used to build a description their beliefs and interests in school mathematics and their goals for school achievement.

John C. Knudson-Martin

Oregon State University, Corvallis, Oregon

149 A/B (Convention Center) capacity: 174

155

Developing Algebraic Thinking by Exploring Linearity

(6–8) Session

This session will focus on two activities that use students' prior knowledge of patterns to explore linearity. Participants will work through the activities—one using geometry, and the other, population data—to discover a linear pattern. In both instances, nonexamples are also used to show that not all relationships are linear.

Sharon Taylor

Georgia Southern University, Statesboro, Georgia

Michael Grasse

Elk Grove High School, Elk Grove Village, Illinois

Meeting Room 12/13/14 (Renaissance) capacity: 90



156

Single-Sex Mathematics Classes: Equitably Meeting the Needs of All Students

(6–12) Session

The speaker will examine experiences of middle and high schools offering single-sex mathematics classes as compared to coeducational classes. Gender-specific learning, teaching, and assessment designs will be presented. Participants will discuss pros and cons of both settings. Activities addressing learning styles of both sexes will be provided.

Pamela Ann Halpern

Salem State College, Salem, Massachusetts

Farragut Square (Hyatt) capacity: 72



157

English Language Learners (ELLs): Build Knowledge through “Detours”

(6–12) Session

In this session, the presenter will share a pedagogical approach to help ELLs build background mathematical knowledge and fill conceptual and procedural gaps. By making “detours” from the mathematics curriculum, teachers can target specific concepts from the elementary school level up, while helping ELLs catch up to the grade level.

Susana Davidenko

TODOS: Mathematics for ALL; State University of New York–College at Cortland, Cortland, New York

Renaissance West B (Renaissance) capacity: 162

158

How Smart are You? Advanced SMART Board™ for the Secondary School Mathematics Classroom

(6–12) Session

The SMART Board is becoming more common in today's classrooms. Participants will get a quick review of the basics of using a SMART Board and then be introduced to advanced functionality that is of particular use in the secondary school mathematics classroom.

William C. Tozzo

Bedford Central School District, Bedford, New York

140 A (Convention Center) capacity: 154

160

Use Math-Science Notebooks to Connect Inner-City Students with Real-World Mathematics, and Make Their Ideas Visible

(6–12) Session

Learn how students use math-science notebooks to develop ideas and understanding. Math-science notebooks make thinking visible, as students use them to record observations, data, and procedures, and explore personal ideas and questions in words, numbers, sketches, and diagrams.

Kelly Gaddis

Bard College, Annandale-on-Hudson, New York

Annie Lerew

Banana Kelly High School, New York, New York

Nicola Vitale

Banana Kelly High School, New York, New York

204 C (Convention Center) capacity: 135



161

Urban Success: Teaching Approaches That Lead to Equitable Achievement

(6–12, Higher Education, Teacher of Teachers) Session

This presentation will look at the equitable teaching practices used at Railside school, where students achieved at higher levels, enjoyed math more, and took more math courses than students in traditional schools. Participants will watch some videos and consider the important and unusual teaching practices used at the school.

Jo Boaler

University of Sussex, Brighton, Sussex, United Kingdom

Renaissance East (Renaissance) capacity: 320

162

Exploring 3-D Geometry Using Google's SketchUp**(6–12, Teacher of Teachers) Session**

Three-dimensional geometry can be taught and learned in new and exciting ways using Google's free, 3-D design software package, SketchUp. Learn how to explore the traditional topics of solid geometry such as prisms and pyramids and the Platonic solids using this easy-to-use, powerful software package.

Jonathan Choate

Groton School, Groton, Massachusetts

202 B (Convention Center) capacity: 418

163

Supporting Beginning Teachers: Where's the Math?**(6–12, Teacher of Teachers) Research Session**

Induction and mentoring programs to support beginning teachers abound, but how do they support the unique needs of mathematics teachers? Learn about research on successful induction programs around the world and in the United States that focus specifically on mathematics teachers and their content-related needs.

Ralph T. Putnam

Michigan State University, East Lansing, Michigan

Edward Britton

WestEd, Redwood City, California

Renwick/Bulfinch (Hyatt) capacity: 72



164

Behavioral and Instructional Techniques for Middle and High School Students with Mild Disabilities in Mathematics**(6–12, Teacher of Teachers) Session**

Inclusion is an issue at all levels, but it is often especially difficult at the middle and high school level in mathematics. This session will provide beginning and practicing teachers with techniques for coteaching, adapting instruction, and adapting the learning environment in middle and high school mathematics classes.

Lisa Dieker

University of Central Florida, Orlando, Florida

Wilson/Roosevelt (Hyatt) capacity: 88

Yes, They Can: Ending Social Promotion in Our Mathematics Classrooms**(9–12) Session**

Historically, inner-city students could pass mathematics classes merely by showing up and turning in mediocre work. Hear how one inner-city high school convinced the principal, the students, and parents that this system of low expectations is no longer standard operating procedure.

Paul Penniman

Resources for Inner-city Children (RICH), Washington, D.C.

Anthony Lizardi

Cesar Chavez Public Charter School for Public Policy, Washington, D.C.

103 B (Convention Center) capacity: 164

166

PowerPoint® + Geometer's Sketchpad® + Digital Camera = Math 4 All**(9–12) Session**

Participants will be engaged in algebraic ideas to make mathematical connections, including real-life applications. A handout and CD will be provided. No familiarity with Geometer's Sketchpad required.

Fernando Rodriguez

Buena Park High School, Buena Park, California

Bellerieve Dean

Buena Park High School, Buena Park, California

144 C (Convention Center) capacity: 156

167

The Rush to Calculus**(9–12) Session**

Should more students be encouraged to take calculus in high school? This presentation will report on the extent to which students continued their high school math acceleration in their first year at Rutgers, on the basis of a study of their high school and college transcripts. (Hint: Not too many did.)

Joseph G. Rosenstein

Rutgers University, New Brunswick, New Jersey

Meeting Room 5 (Renaissance) capacity: 58

Future Annual Meetings:

San Diego, California, April 21–24, 2010

Indianapolis, Indiana April 13–16, 2011

Philadelphia, PA April 25–28, 2012

168

Revision, Revision! The Upcoming Series 2012 GED Mathematics Test Models Changing Standards

(9–12) Session

To match the changing standards for mathematics advocated by NCTM and mirror the achievements of today's graduating high school seniors, the GED Mathematics Test will match the quickest revision in the test's history. Learn what the changes will be and how the test will provide a second chance for adults whose education has been interrupted.

Kenn Pendleton

GED Testing Service, Washington, D.C.

158 A/B (Convention Center) capacity: 137

169

Taking Limits to the Limit with Dynamic Sketches in the Calculus Classroom

(9–12, Higher Education) Session

Participants will learn how a calculus teacher used dynamic sketches of the limit concept in his classroom to investigate students' understanding of limits, to enrich the classroom environment, to help students overcome misconceptions, and to make the formal definition of the limit of a sequence more accessible to all.

Beth Cory

Sam Houston State University, Huntsville, Texas

102 A (Convention Center) capacity: 144

170

Lessons from the History of Mathematics

(9–12, Higher Education) Session

This will be a broad-ranging talk illustrating how the history of mathematics can be a useful guide to what really drives mathematics and to the conceptual obstacles students are likely to encounter.

David M. Bressoud

Macalester College, Saint Paul, Minnesota

Grand Ballroom South (Renaissance) capacity: 430

LOR 171

Lessons Learned in a Single-Gender Algebra 1 Classroom: Strategies for Instruction and Classroom Management

(9–12, Teacher of Teachers) Session

This interactive session will provide instructional and classroom management strategies used in a ninth-grade, all-girl, Algebra 1 classroom. Differentiated instructional strategies and resources, streaming video integration, brain-based research, and an annotated bibliography of Web resources will be shared.

Julie Anna Hartwell

South Carolina Department of Education, Columbia, South Carolina

146 C (Convention Center) capacity: 414

172

Making Sense of Mathematics in New Curricular and Technological Contexts: What Teachers Need to Know

(9–12, Teacher of Teachers) Session

With new curricular and technological approaches to mathematics, teachers face challenges to their own understanding of mathematics and how it is learned. What mathematics can teachers use in responding to these challenges? How can teachers develop deep understanding of how mathematics is learned in new curricular and technological contexts?

M. Kathleen Heid

Pennsylvania State University, University Park, Pennsylvania

Constitution B (Hyatt) capacity: 196

173

Statistics: Never Having to Ask or Answer "Why Do I Need to Know This?"

(Teacher of Teachers) Session

Presidents' Series presentation

This session discusses the American Statistical Association Guidelines for Assessment and Instruction in Statistics Education (GAISE) and its relationship to NCTM's *Principles and Standards for School Mathematics*. The speaker will address the importance of GAISE to students' lives as citizens and provide teaching resources.

Sally C. Morton

President, American Statistical Association; RTI International, Research Triangle Park, North Carolina

150 B (Convention Center) capacity: 248

Come, Connect, Communicate

Grades 3–5

Meet with educators who share your interests to discuss how to improve teaching and learning in grades 3–5. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)

Come, Connect, Communicate

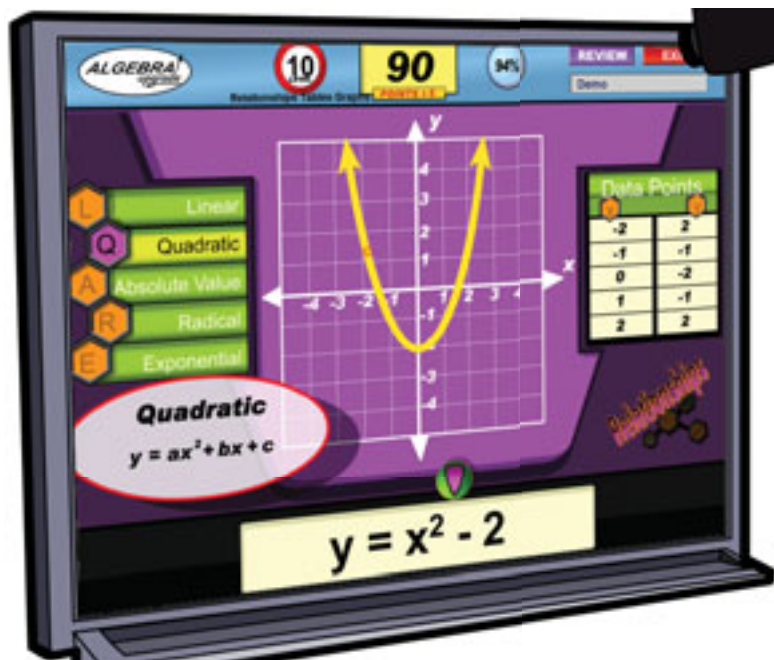
English Language Learners (ELL)

Meet with educators who share your interests to discuss how to improve teaching and learning related to English language learners. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

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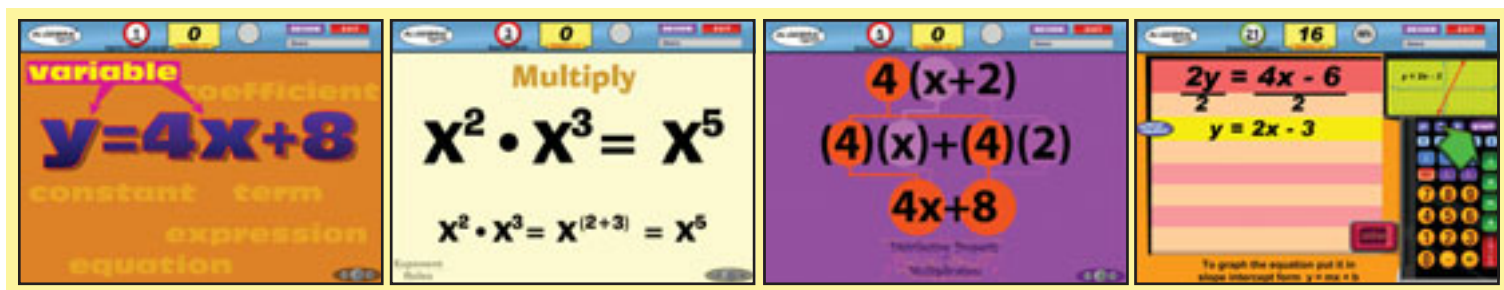
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Exhibitor Workshop 9

Kendall/Hunt Publishing Company

Math Innovations: A New Middle School Mathematics Program

Developed using Curriculum Focal Points, Math Innovations encourage students to think like mathematicians with a focus on verbal and written communication. Concepts are developed in a coherent, focused manner in conjunction with computational fluency.

Room 143 A (Convention Center)

Exhibitor Workshop 10

Pearson

CME Project: Developing Habits of Mind

Review CME Project through Habits of Mind to develop mathematical thinkers. (Grades 9–12)

Room 143 B (Convention Center)

Exhibitor Workshop 11

Learning Upgrade

Algebra Equity through Interactive Lessons Using Songs, Video, and Games

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!

Room 143 C (Convention Center)

Exhibitor Workshop 12

International Schools Services

Teach Abroad: Join International Schools Services

Do you want to broaden your perspective by working overseas? Does helping American and international students living abroad appeal to you? Then check out International Schools Services' Educational Staffing Program.

Room 144 A (Convention Center)

12:30 p.m.–1:30 p.m.

174



Is Math Real? Sure! It Pops Up Every Day!

(General Interest) Session

Engage in intriguing situations that connect mathematics to daily life. These settings range from personal health to planetary motion. In addition, we will all recommit to our vision of engaging

all students in challenging mathematics.

James M. Rubillo

Executive Director, National Council of Teachers of Mathematics, Reston, Virginia

207 B (Convention Center) capacity: 426

175

Let's Stop Talking about the Achievement Gap and Close the Instructional Gap

(General Interest) Session

Although achievement measured by the National Assessment of Educational Progress is up, the achievement gap has not narrowed. Failure to close the achievement gap may be a result of ineffective practices and policies in our schools. Research concerning the instructional gap will be examined as a strategy for closing the achievement gap.

Matt Larson

Lincoln Public Schools, Lincoln, Nebraska

Independence A (Hyatt) capacity: 800

176

Cultivating Rigorous Classroom Discourse for Students' Success

(General Interest) Session

What teaching moves cultivate students' rigorous discourse and improve students' mathematical reasoning? Drilling deeper than "turn and talk," we will consider what moves to use when for what purpose. Video-based discussion will focus on what each student reveals about his or her thinking and what that implies for instruction.

Lucy West

Metamorphosis Teaching Learning Communities, New York, New York

Meeting Room 5 (Renaissance) capacity: 58

LCR 177

Math for the "Fast Forgetter"

(PreK–2) Session

"I'm not a slow learner, teacher. I'm a fast forgetter!" How can you help children unlock the wonders of math, even though they may have difficulty remembering their facts, articulating their reasoning, and reading and writing numbers correctly? Strategies will be shared that will help these learners make sense of mathematics.

Angela Giglio Andrews

National Louis University, Chicago, Illinois

203 A/B (Convention Center) capacity: 150

178

The Difference Between Learning Math and "Getting Your Work Done"

(PreK–2) Session

Are you providing what children need to be successful in their future studies of mathematics, or are you just helping them get their work done?

Kathy Richardson

Math Perspectives Teacher Development Center, Bellingham, Washington

Constitution B (Hyatt) capacity: 196

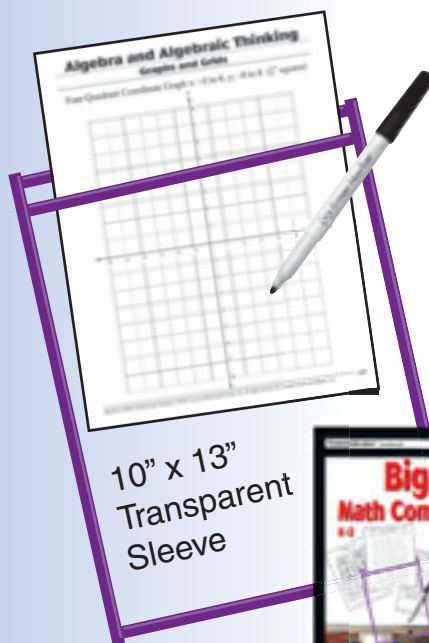
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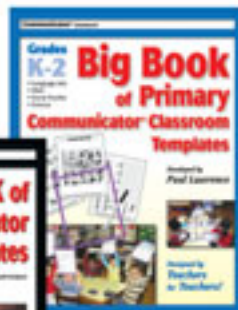


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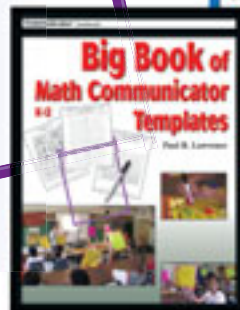
Grades K-2



Grades 6-8



Multiplication Facts



Grades K-12



Grades 3-5



Grades 9-12

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179

Preschoolers' Problem-Solving Processes and Strategies Related to Accuracy While Solving Missing-Addend Problems

(PreK–2) Research Session

This presentation examines preschoolers' use of problem-solving processes and strategies, and the predictors of accuracy, while solving missing-addend problems. Results show that certain processes and strategies interact to predict success. Methods for teaching problem-solving processes and arithmetic strategies will be discussed.

Luz Stella Lopez

Universidad del Norte, Barranquilla, Atlantico, Colombia;
Marymount School, Barranquilla, Atlantico, Colombia

Farragut Square (Hyatt) capacity: 72

180

Effects of a Professional Development Intervention on Low-Income Children's Knowledge of Mathematics

(PreK–2) Research Session

This presentation describes a prekindergarten, math-science curriculum, the professional development of Head Start teachers, prekindergarten children's outcomes, and findings from the first two years of data collection. Suggestions for helping teachers become successful facilitators of math-science activities will be shared with participants.

David Brown

Texas A&M University—Commerce, Commerce, Texas

Lin Moore

Texas Woman's University, Denton, Texas

Lafayette Park (Hyatt) capacity: 78

LOR 181

Response to Intervention (RTI) Practice for Teaching Number Sense and Operations to All Students

(PreK–5) Session

Join us as we discuss how to meet the needs of *all* students using the RTI model for teaching number concepts and operations to children in grades K–4. The discussion will include topics such as intervention levels, strategies, assessments, and specific examples of lessons you can immediately use with students.

Kimberly Rimbey

Rodel Charitable Foundation of Arizona, Phoenix, Arizona

158 A/B (Convention Center) capacity: 137

182

Place Value for All: A Real Hands-On Approach

(PreK–5) Session

Participants will engage in activities designed to develop a deep understanding of place value. Manipulatives based on the most powerful representation of ten will be used to develop strong number sense and efficient mental computation strategies for all students.

Brian James Tickle

Consultant, Taree, New South Wales, Australia

Renwick/Bulfinch (Hyatt) capacity: 72

183



Singapore Math Sixth Graders Solve Harder Problems than the Eighth-Grade NAEP

(PreK–8) Session

Open a Singapore Math book to any page, and you think, “How can a child not learn this?” Often the explanation is just a few words in a cartoon balloon. By sixth grade, students can do this: “Lauren spent 20 percent of her money on a dress. She spent $\frac{2}{5}$ of the remainder on a book. She had \$72 left. How much money did she have at first?”

John Hoven is an economist in the Antitrust Division of the U.S. Justice Department, where he sees higher-level math applied in the ordinary course of business. He has an M.A. in physics and a Ph.D. in economics, and he knows how the physical and social sciences use mathematics. In his school district, he is a persistent advocate for focused, content-rich curricula as urged by the NCTM *Curriculum Focal Points*, on behalf of children with commonplace learning needs (the average student, unprepared for college mathematics) or special learning needs (gifted, special education, or second-language learners).

John Hoven

Consultant, Silver Spring, Maryland

149 A/B (Convention Center) capacity: 174

184

Nature Books Are a Natural: Using Science Literature for Mathematical Learning

(PreK–8) Session

Literature, science, and math converge in nature books. Drawing on diverse books, photographs, facts, and students' work, the speaker will show how to use many kinds of nature books to support standards and integrate curriculum. Participants will devise and share mathematical extensions of nature books that lack obvious math connections.

David M. Schwartz

Author, Oakland, California

Ballroom A (Convention Center) capacity: 1442

**185****Improving Access and Equity for Math Learners with Autism Spectrum Disorders (ASD)****(PreK–8) Session**

Concrete mathematical tools, such as Algeblocks, can be paired with assistive technology to teach students with ASD important mathematical concepts and skills identified in the Curriculum Focal Points for grades K–8, such as fraction equivalence, operations on rational numbers, and describing spatial relationships.

Pamela Lloyd Curtis

Virginia Department of Education's Training and Technical Assistance Center, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

Brian Dye

Virginia Department of Education's Training and Technical Assistance Center, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

*Wilson/Roosevelt (Hyatt) capacity: 88***LOR 186****Alternative Algorithmic Techniques for Teaching Basic Operations to Students with Exceptional Learning Needs****(3–5) Session**

This session will identify common math errors of students with learning problems. In addition to conducting an error analysis, individuals attending this session will learn how to implement alternative algorithmic techniques for teaching basic operations and teach mathematical concepts explicitly through strategy instruction.

Joseph Sencibaugh

Truman State University, Kirksville, Missouri

*146 C (Convention Center) capacity: 414***LOR 187****Differentiating Problem Solving: Supporting All Levels of Learners****(3–5) Session**

A crucial math goal is for students to become effective problem solvers. Participants will discover techniques for differentiating problem tasks, as well as instructional strategies, practical resources, and classroom activities that will enhance the problem-solving skills of all levels of learners.

Susan Rita O'Connell

University of Maryland, College Park, Maryland

*151 B (Convention Center) capacity: 284***188****The "Aha" Moment****(3–5) Session**

"Oh, now I see it." "Oh, wow!" "Now I get it." Ways to use technology will be shared, old and new, (digital camera, computer, paper and pencil, mental math) that help students connect mathematics to the real world.

Elizabeth Lodholz Cornell

Parkway School District, Saint Louis, Missouri

*Independence F/G (Hyatt) capacity: 120***189****Math Games to Motivate All Learners****(3–5) Session**

Experience several games designed to promote mathematical reasoning while reinforcing basic skills. These games provide active participation in meaningful, research-based activities designed to motivate learners. A handout will include game rules and additional resources.

Judy Bippert

San Diego State University, San Diego, California

*Renaissance East (Renaissance) capacity: 320***190****The Best-Ever, Most Logical, Problem-Solving Strategy for All****(3–8) Session**

Bar diagrams, a highly effective problem-solving strategy, are visual, logical graphics focused on thinking and comprehension that can enhance any program and benefit all students. Use bar diagrams to analyze, draw, and solve problems. Add this critical-thinking strategy to your students' problem-solving toolbox. Session includes a handout.

Robyn Silbey

Montgomery County Public Schools, Gaithersburg, Maryland

*Congressional Hall A (Renaissance) capacity: 198***191****What We Learned through Lesson Study: Ideas to Design Lessons for All****(3–8, Teacher of Teachers) Session**

Engaging all students in rich discussion is necessary but challenging. Teachers in Chicago learned that anticipating students' responses is a key for teaching through problem solving. We will share how we used ideas from Japanese curriculum materials to design lessons that invited all students to actively participate in mathematical discussion.

Akihiko Takahashi

DePaul University, Chicago, Illinois

Renaissance West A (Renaissance) capacity: 162

192

Algebra the SMART™ Way**(6–8) Session**

Capture students' attention and require higher-order thinking skills by using algebra tiles and the SMART Board to build algebraic concepts. Help students to focus on abstract information in order to meet content standards and learning objectives. Hands-on lessons motivate kinetic and visual learners while deepening their understanding.

Caryl Ann Lorandini

Nassau County Mathematics Teachers Association, Garden City Park, New York; Association of Mathematics Teachers of New York State, Garden City Park, New York

140 A (Convention Center) capacity: 154

195

Equity: Designing Technology-Rich Curricular Activities for Democratizing Access to Advanced Mathematics**(6–8) Session**

The speaker will present research demonstrating that technology-rich activities used with paper materials and teachers' professional development improve learning for all students. An experiment with teachers across Texas found that the intervention increased learning despite students' gender, ethnicity, language, or socioeconomic status.

Jeremy Roschelle

SRI International, Menlo Park, California

202 B (Convention Center) capacity: 418

196

Helping Middle School Students Develop an Understanding of Proportional Reasoning**(6–8, Teacher of Teachers) Session**

You will gain a deeper understanding of what is proportional reasoning and how it relates to ratios. Furthermore, research on how children reason proportionally will be presented. Implications for teaching for conceptual understanding will be discussed.

Heather Clark

University of Nevada, Reno, Reno, Nevada

Teruni Lamberg

University of Nevada, Reno, Reno, Nevada

102 A (Convention Center) capacity: 144

LOR 193

Strategies for the Dyslexic, the Dysgraphic, and Those with Dyscalculia**(6–8) Session**

This session will briefly define and explain how dyslexia, dysgraphia, and dyscalculia manifest themselves in the math classroom and offer strategies that help build equity and success. The strategies will use a multiplication chart, various types of graph paper, created and modified worksheets and tests, and assisted technology and software.

Kathy Ann Matlage

Joy School, Houston, Texas

144 C (Convention Center) capacity: 156

LOR 194

Providing Equity and Access through Culturally Responsive Mathematics Instruction**(6–8) Session**

This session will identify multiple pathways to effective mathematics teaching and learning for students from culturally and diverse backgrounds. Strategies that build skills and concepts at every ability level, while focusing on the role of culture in mathematics instruction will be shared.

Mary J. Mitchell

Association of Mathematics Teachers of New Jersey, Glassboro, New Jersey

Robin Dale Roberts

Fairfax School Board, Fairfax, Virginia

209 A (Convention Center) capacity: 107

LOR 197

Learn to Modify Middle and High School Problems to Differentiate Instruction**(6–12) Session**

Scaffold problems so students learn as they answer questions. When students realize how much they already understand, they can learn more difficult concepts. Provide connections among concepts and representations. Participants learn to modify curriculum materials to differentiate instruction for those at both ends of the learning spectrum.

Carol Reed Findell

Boston University, Boston, Massachusetts

146 A (Convention Center) capacity: 423

198

Scaling the Universe with Mathematics**(6–12) Session**

The NASA EPO group at Sonoma has developed free activities based on the science of the Gamma-ray, Large-Area Space Telescope (GLAST) mission, launched May 2008. Students often have difficulty comprehending orders of magnitude. Your students will see mathematical models that help scientists measure and understand physical phenomena.

Mary Garrett

National Air and Space Administration, Education and Public Outreach (NASA EPO), Rohnert Park, California

147 B (Convention Center) capacity: 255

LOR 199

Strategies and Technologies to Use in the Mathematics Classroom with At-Risk Learners to Improve Students' Achievement
(6–12) Session

Participants will gain knowledge and understanding of easy-to-use strategies and technologies to employ in working with at-risk learners in the mathematics classroom, to improve achievement and retention while creating a fun, exciting mathematics learning environment.

Christine Kasitz

California Mathematics Council, Clayton, California

Leslie Banks

California Mathematics Council, Clayton, California

150 B (Convention Center) capacity: 248



200

At-Risk Learners in the Mathematics Classroom: A Brain-Based Learning Perspective
(6–12) Session

Using brain-based learning theory as a context, this session will describe characteristics of at-risk learners and offer strategies you can use to help them succeed in your mathematics classroom.

Lisa Carnell

High Point University, High Point, North Carolina

Auditorium (Renaissance) capacity: 282

201

Discrete Mathematics Helps Level the Playing Field for All Students
(6–12, Teacher of Teachers) Session

The infusion of discrete mathematics topics into algebra and geometry curriculum allows all students to experience doing everyday applications, make connections between content standards, and, especially, solve problems using multiple representations. Some examples from NCTM's *Navigating in Discrete Mathematics, Grades 6–12* will be featured.

Margaret J. Kenney

Boston College Mathematics Institute, Chestnut Hill, Massachusetts

152 B (Convention Center) capacity: 262

202

Learning about Regression with Real and Virtual Spaghetti
(6–12, Teacher of Teachers) Session

The speakers will engage participants in a well-known, hands-on activity to study linear regression. Then we will demonstrate how the activity can be enriched using TI NSpire calculators to create a virtual manipulative. Finally, we will show a video of students engaged in the same activity and elicit a discussion of the learning environment.

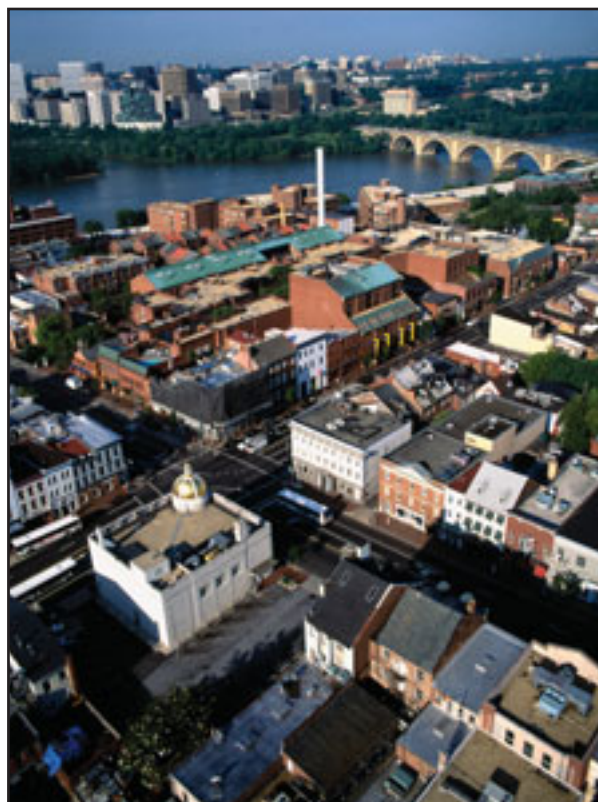
Thomas G. Edwards

Wayne State University, Detroit, Michigan

S. Asli Ozgun-Koca

Wayne State University, Detroit, Michigan

156 (Convention Center) capacity: 156



Aerial of Georgetown. © Jason Hawkes. All rights reserved.

203



Framing Questions to Engage All Students in Making Sense of Mathematics

(6–12, Teacher of Teachers) Session

Guided by the *Principles and Standards* and *Focal Points* documents and using students' work, this session will investigate how the framing of questions remotivates students with varied mathematical knowledge to gain deep understanding of mathematical concepts when they are asked to make sense of the mathematics they are learning.

Carol Malloy is associate professor in mathematics education at the University of North Carolina at Chapel Hill. She teaches preservice methods and mathematics courses and graduate foundations courses. She has taught mathematics for 20 years in high schools across the United States. Her interests focus on equity in education and reform. She is responsive to concerns that many students have difficulty learning mathematics and, specifically, that African American, Latino, and Native American students often lack opportunities to learn quality mathematics and gain necessary skills to perform and understand rigorous mathematics. She works in local, regional, and national professional organizations for equitable opportunity and quality in education, with emphasis in mathematics.

Carol E. Malloy

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Grand Ballroom South (Renaissance) capacity: 430

204

Mathematics and the World of Work

(9–12) Session

Today's jobs calls for high levels of math preparedness. This session will offer insight into the expectations for various jobs, based on research conducted by Achieve for its Mathematics at Work brochures. Multiple pathways will be offered for preparing students and ideas for classroom experiences to engage students in rigorous, meaningful math.

Kaye Forgione

Achieve, Inc., Washington, D.C.

204 C (Convention Center) capacity: 135

205

Helping Students Understand and Apply the Fabulous Circular Functions

(9–12, Higher Education) Session

Using similarity, the unit circle, and Geometer's Sketchpad, visualize the circular functions and see that they represent segments adjacent to the unit circle. Traditional functions (reciprocals, cofunctions, double or half angle, negative angle, sum and difference) will visually emerge and serve as a basis for deep understanding.

John Kerrigan

West Chester University, West Chester, Pennsylvania

Renaissance West B (Renaissance) capacity: 162

206

Mathematics Reform in a Tribal College Setting

(9–12, Higher Education) Session

Effective remediation strategies in a tribal college setting are consistent with native ways of learning and promote students' mathematical development. This presentation will discuss efforts to adapt a common, computer-based instructional platform for use in developmental courses at Chief Dull Knife College.

Theodore Hodgson

Northern Kentucky University, Highland Heights, Kentucky

Bob Madsen

Chief Dull Knife College, Lame Deer, Montana

Carol Ward

Brigham Young University, Provo, Utah

145 B (Convention Center) capacity: 278

207

Cooperative Problem-Solving Groups in Calculus

(9–12, Higher Education) Session

This session will present ideas on how to organize and use cooperative problem-solving groups successfully in a calculus course.

Wade Hampton Sherard

Furman University, Greenville, South Carolina

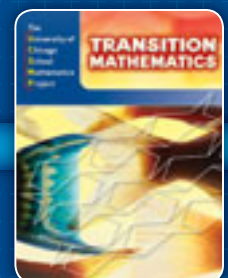
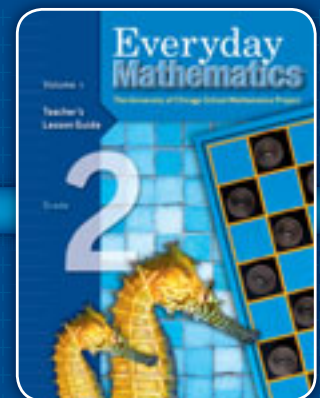
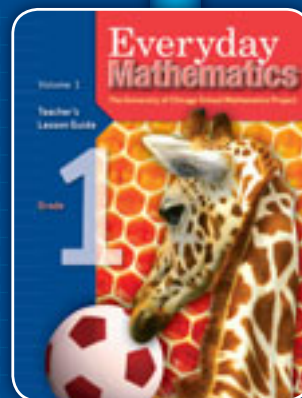
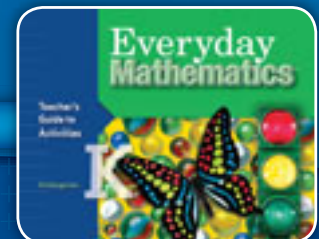
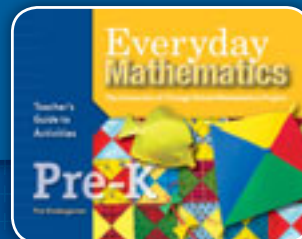
Meeting Room 12/13/14 (Renaissance) capacity: 90



A POWERFUL PARTNERSHIP

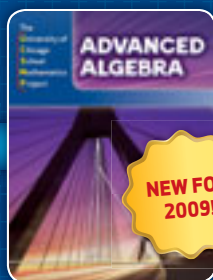
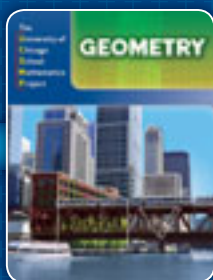
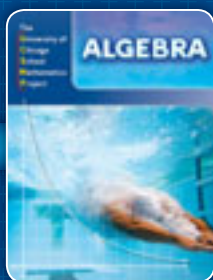
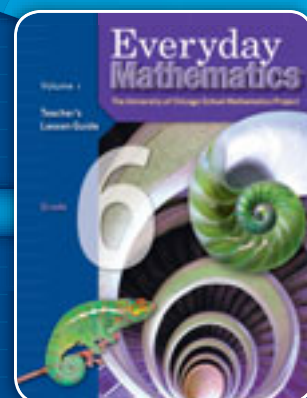
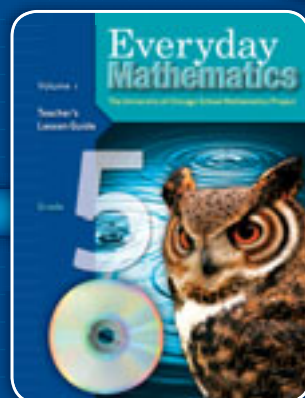
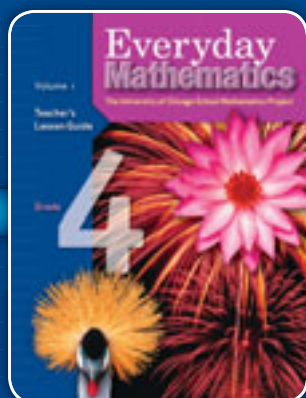
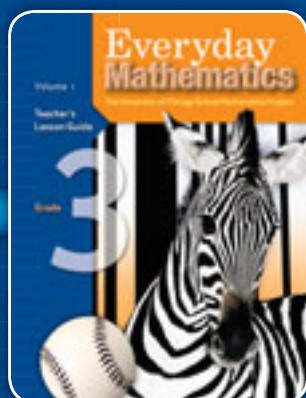
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12:30 p.m.–1:30 p.m.

208

Scaling Up Mathematics Achievement (SUMA): A University–School District Research Partnership for Systemic Learning (Higher Education) Research Session

SUMA is partnership between New Mexico State University and Las Cruces Public Schools to explore the systemic implementation of a math program using the research-based Building Capacity Model. The model involves quality aligned and learned curriculum, teacher quality and intentional collaboration, and administration, parents, and community.

Cathy Jeanne Kinzer

New Mexico State University, Las Cruces, New Mexico

Karin Wiburg

New Mexico State University, Las Cruces, New Mexico

Liz Marrufo

Las Cruces Public Schools, Las Cruces, New Mexico

Rocio Benedicto

New Mexico State University, Las Cruces, New Mexico

103 B (Convention Center) capacity: 164

209

Preparing for Your Institution's NCATE Program Review

(Higher Education, Teacher of Teachers) Session

Learn to navigate the National Council for Accreditation of Teacher Education (NCATE) program review process and prepare the required documents. This session will give information about the overall program review system as well as specifically what is needed to prepare mathematics education program reports. Report templates, samples of assessments, and mistakes to avoid will be explored in this session.

Monique Lynch

National Council of Teachers of Mathematics, Reston, Virginia

209 B/C (Convention Center) capacity: 213

210

Formative Assessment: Going beyond the Buzzword and Getting Practical

(Teacher of Teachers) Session

This session will explore and model a range of formative assessment practices and demonstrate how formative assessment is much more aligned with good instruction than with summative assessment. The speaker will also discuss how formative assessment serves as “assessment for learning” and why “more is better.”

Steven Leinwand

American Institutes for Research, Washington, D.C.

Ballroom B/C (Convention Center) capacity: 2512

211

Creating Coaching Cohorts

(Teacher of Teachers) Session

Content coaching is a professional development model designed to promote students' learning and increase mathematics achievement. In many schools, one coach is assigned to dozens of teachers at various levels of proficiency. Cohorts create professional learning communities and enhance teacher practice. Come hear about the possibilities!

Pia Hansen

PHP Consulting, Cheyenne, Wyoming

Cabin John/Arlington (Hyatt) capacity: 88

Come, Connect, Communicate

Grades 6–8

Meet with educators who share your interests to discuss how to improve teaching and learning in grades 6–8. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)

Come, Connect, Communicate

Single-Gender Education

Meet with educators who share your interests to discuss how to improve teaching and learning related to single-gender classrooms. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

1:00 p.m.–2:00 p.m.

Exhibitor Workshop 13

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Room 143 A (Convention Center)

Exhibitor Workshop 14

Pearson

Pearson's NSF Continuum of Mathematics Programs, Grades K–12

Review the similarity of philosophy and features of 3 NSF programs: Investigations, CMP2 and the CME Project.

Room 143 B (Convention Center)

1:00 p.m.–2:00 p.m.

Exhibitor Workshop 15

HP Calculators

Algebra for All in the Middle Grades

HP Calculators has a new solution for middle grades math. Come get hands-on experience with the easy-to-use HP 39GS graphing calculator and the StreamSmart data-streamer! Motivating students to learn algebra has never been easier!

Room 143 C (Convention Center)

Exhibitor Workshop 16

CPM Educational Program

CPM: An Exemplary Program Offering More Math for ALL Students, Grades 6–12

Explore course problems that teach conceptual understanding, basic skills, and problem-solving strategies. Take home a chapter from each course, research data, and reports of CPM's effectiveness (a CD). Learn about funded professional development support.

Room 144 A (Convention Center)

1:00 p.m.–2:30 p.m.

212

Taking the Problem out of Word Problems with Singapore's Model-Drawing Approach

(General Interest) Gallery Workshop

Solving word problems is a challenge for many of our students. The speaker, author of *Teaching Thinking and Problem Solving in Math* and coauthor of *8-Step Model Drawing*, will share how and why Singapore's model drawing approach improves students' understanding, performance, and confidence.

Char Forsten

Staff Development for Educators, Peterborough, New Hampshire

206 (Convention Center) capacity: 323

213

Developing Number Sense and Understanding through Multiple Meanings for Addition and Subtraction

(PreK–2) Gallery Workshop

Explore four categories of problems (Join, Separate, Part-Part-Whole, Compare) and eleven problem types. Analyze each type, solve sample problems, and write thematic problems for each type. The result: rich and varied contexts and story problems that foster deeper understanding of addition and subtraction.

Patty E. Smith

Consultant, Easley, South Carolina

208 A/B (Convention Center) capacity: 95

214

The Charge of the Picture Book Brigade: Into the Valley of Mathematics Rode the 100!

(PreK–5) Gallery Workshop

Learn to use favorite, or soon to be favorite, picture books as springboards to hands-on, math-science activities. Handouts of sample activities, plus links to all 100 books, will be provided.

Penny Brown

Elizabeth Learning Center, Cudahy, California

Patricia B. McKean

Convent of the Sacred Heart, Greenwich, Connecticut

Constitution C/D/E (Hyatt) capacity: 200

215

Say It to Play It!

(PreK–5) Gallery Workshop

Do you have fun with math every day? Three elementary school teachers will share games and hands-on activities to promote number sense from early counting experiences to fractions. The focus will not only be on playing the games but also on the importance of the discourse that follows after the game.

Patti Schneider

Hanover County Public Schools, Mechanicsville, Virginia

Stephanie Miller

Hanover County Public Schools, Mechanicsville, Virginia

Laura Domalik

Hanover County Public Schools, Ashland, Virginia

Grand Ballroom North (Renaissance) capacity: 298

216

Mastering Measurement

(3–5) Gallery Workshop

Are you looking for creative ways to motivate students to master concepts in measurement? Try these classroom-ready activities dealing with a variety of measurement topics. Have you ever tried to find the volume of a banana? Create a one-meter picture? Set up a weight wall? Find out how! Join the measurement mania!

Connie Horgan

Jerome High School, Jerome, Idaho

101 (Convention Center) capacity: 170

THURSDAY

217

Engaging Activities + Effective Instructional Strategies = Students' Success (3–5) Gallery Workshop

“Work smarter” to improve numeric competence. These strategies promote greater participation and sense making, ideal for intervention success and “family math” efforts. A ready-for-immediate-use handout will include engaging activities to improve students’ performance and enhance mathematical reasoning.

Leigh Childs

California Mathematics Council, San Diego, California

Grand Ballroom Central (Renaissance) capacity: 337

218

Integrating Children’s Literature and Hands-on Activities to Promote Problem Solving, Connections, and Mathematical Discourse

(3–5, Teacher of Teachers) Gallery Workshop

This workshop will help teachers and teacher educators to select and integrate appropriate materials, activities, and children’s literature for promoting mathematical process standards. The teacher’s role in creating a learning environment and orchestrating discourse will be examined and discussed.

Nick Stupiansky

Edinboro University of Pennsylvania, Edinboro, Pennsylvania

Mary Jo Melvin

Edinboro University of Pennsylvania, Edinboro, Pennsylvania

Patricia Flach

Edinboro University of Pennsylvania, Edinboro, Pennsylvania

Virginia McGinnis

Edinboro University of Pennsylvania, Edinboro, Pennsylvania

Sandra Waite-Stupiansky

Edinboro University of Pennsylvania, Edinboro, Pennsylvania

146 B (Convention Center) capacity: 340

219

Anno’s Link to Numeracy and Spatial Awareness through Literacy

(3–5, Teacher of Teachers) Gallery Workshop

Explore Mitsumasa Anno’s books, such as *Magic Seeds*, *The Mysterious Multiplying Jar*, *Hat Tricks*, *Topsy Turvies*, and *The King’s Flower*, along with using manipulatives, to develop instructional activities that use literacy to develop spatial awareness and numeracy skills.

Terrie T. Poehl

Louisiana Tech University, Ruston, Louisiana

Trena Wilkerson

Baylor University, Waco, Texas

Eric J. Heinrich

Louisiana Tech University, Ruston, Louisiana

Congressional Hall B (Renaissance) capacity: 132

220

Mental Math, Numbers Systems, and Culture for All

(3–5, Teacher of Teachers) Gallery Workshop

Need a mental math workout? Exercise your brain as we engage in hands-on explorations of number systems from different cultures. The explorations help students develop mental math abilities while helping them develop a deep understanding of place value, numbers and their operations, and contributions of various cultures to mathematics.

Nancy K. Mack

Grand Valley State University, Allendale, Michigan

Constitution A (Hyatt) capacity: 180

221

Fascinatin’ Factors and Fractions: Sketchpad In Grades 3–6

(3–8) Gallery Workshop

Animate your elementary school classroom with activities covering symmetry, animation, factors, fractions, decimals, and more. Build some from scratch; use prepared sketches in others. Attendees will receive teacher notes, student worksheets, and sketches for six activities. Bring a laptop with battery power.

Scott Steketee

Key Curriculum Press, Emeryville, California

204 A/B (Convention Center) capacity: 227

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222

It's Not in the Textbook: Now What? Hands-On, Discrete Mathematics in the Middle School**(3–8) Gallery Workshop**

Join the speakers for some hands-on examples in discrete math! Activities on vertex edge maps, four-color theorem, origami, combinations, and more can be applied right away in the classroom and easily adapted to multiple ages and grade levels. You will leave knowing how to get your kids excited about problem solving.

Alanna Webb

Cimarron Springs Elementary School, Surprise, Arizona

Laura Bootman

Nadaburg Unified School District, Surprise, Arizona

Independence D/E (Hyatt) capacity: 95

223

Engage Your Students in Problem Solving with Discrete Mathematics**(3–8) Gallery Workshop**

Engage in mathematical reasoning, problem-solving, and communication through a variety of discrete mathematics activities you can implement in your classroom. Topics include four-color theorem, vertex-edge graphs, and logic.

Shannon O. S. Driskell

University of Dayton, Dayton, Ohio

Suzanne Harper

Miami University, Oxford, Ohio

144 B (Convention Center) capacity: 96

224

Factoring Fun for All Students: Factoring Strategies Using Math Games**(6–8) Gallery Workshop**

Participants will learn unique, multiple-representation strategies and motivating games using multisided dice and cards, for prime factoring and for factoring fractions to find lowest common denominator and greatest common factor. The strategies will be extended, using the distributive property, for factoring of polynomials and quadratics.

Nancy E. McGuire-Paulson

San Marcos Unified School District, San Marcos, California

103 A (Convention Center) capacity: 232

225

Are You Interested in Differentiation in Your Mathematics Class, But Not Sure Where to Begin?**(6–8) Gallery Workshop**

This hands-on session will get you started! Use NCTM resources, state standards, and advanced courses to develop anchor activities, challenges, and tiered assignments. Design lessons and activities that create a challenging and engaging learning environment for students with different readiness levels and learning styles.

Laurie Griffo

Harrison Central School District, Harrison, New York

Andrea Courtney

Harrison Central School District, Harrison, New York

Linda Criniti

Harrison Central School District, Harrison, New York

150 A (Convention Center) capacity: 226

226

Projects + Enthusiasm = Success in Math**(6–8) Gallery Workshop**

Middle school students must be actively involved in math to ensure learning and success. Projects provide a vehicle to get students to communicate mathematically, reason, solve problems, and connect mathematics to other content areas. Come prepared to have fun and to leave with a few projects you can use with your students.

Sherry Bailey

Holt McDougal, Columbia, South Carolina

201 (Convention Center) capacity: 326

227

Encouraging Middle School Students to Own Their Mathematics Learning**(6–8) Gallery Workshop**

One school's journey to increase middle school math students' involvement in their learning will be explored. Strategies for communicating expectations, using portfolios, management of the process, and record keeping will be discussed.

Katherine I. Hildebrand

New Brunswick School District 14, Burtts Corner, New Brunswick, Canada

Independence B/C (Hyatt) capacity: 95

228**Area, Perimeter, and Washington, D.C.****(6–8) Gallery Workshop**

Participants will be actively involved in six different hands-on activities for finding the area of a polygonal region. The geometry and history of the Washington, D.C., area will be explored.

Lowell Lynde

University of Arkansas at Monticello, Monticello, Arkansas

Linda Chapman

University of Arkansas at Monticello, Monticello, Arkansas

John Burford

Camden-Fairview High School, Camden, Arkansas

Meeting Room 8/9 (Renaissance) capacity: 60**229****Implementing the Concrete-to-Representational-to-Abstract Approach to Increase Rigor in Mathematics Classrooms****(6–8, Teacher of Teachers) Gallery Workshop**

Participants will overview the hands-on learning activities that address algebraic thinking concepts used during Algebra Success Keys professional developments. The speakers will demonstrate the transition from the concrete to the representational level to the abstract.

Mary Little

University of Central Florida, Orlando, Florida

Shelby Robertson

University of Central Florida, Orlando, Florida

151 A (Convention Center) capacity: 291**230****Algebra for All: Making the Manipulative Connection****(6–12) Gallery Workshop**

Participants will participate in a hands-on, activity-based workshop that will emphasize the use of manipulatives and area models to discover fundamental relationships between geometry and algebra moving to generalizations, giving participants exciting and understandable strategies to engage a wide range of students' abilities and math backgrounds.

John Thomson

Consultant, Rochester, New York

145 A (Convention Center) capacity: 244**231****Growing Your Students' Algebraic Reasoning with Hands-on Growth Patterns****(6–12) Gallery Workshop**

Explicitly and recursively finding the general in the particular: participants will be engaged with a variety of hands-on growth patterns. They will learn how these and similar experiences with patterns can be used to help their students develop algebraic reasoning, algebra skills, and a better understanding of functions.

Stacy Reeder

University of Oklahoma, Norman, Oklahoma

Juliana Utley

Oklahoma State University, Stillwater, Oklahoma

154 A/B (Convention Center) capacity: 162**232****A Story Well-Told: Developing Writing and Thinking Skills through Problems of the Week (POWs)****(6–12) Gallery Workshop**

Problems of the Week are an essential component of this teacher's grades 7–8 math curriculum. Systematic use of POWs supports better math writers and more savvy problem solvers. Attendees will learn how to implement POWs in a middle school math curriculum. They will work on sample problems, read students' essays, and discuss a POW rubric.

Glenn Kenyon

San Francisco School, San Francisco, California

202 A (Convention Center) capacity: 368**233****From Blocks to Equations: Algebraic Reasoning for All Learners****(6–12) Gallery Workshop**

In this session, participants will use a variety of instructional tools and strategies as we investigate patterns and relationships that lead to understanding linear equations. Activities with manipulatives such as blocks, number lines, tables and charts, and graphing calculators will provide opportunities to engage all learners.

Ruth Casey

Partnership Institute for Math and Science Education Reform, University of Kentucky, Frankfort, Kentucky

Margaret Bambrick

Volusia County Schools, DeLand, Florida

207 A (Convention Center) capacity: 339

1:00 p.m.–2:30 p.m.

234

Coaching Tips for Mathematics Competitions and Clubs

(6–12) Gallery Workshop

The chairs of the American Mathematics Competitions contest committees will lead a teacher workshop sharing best practices, experiences, and tips for coaching students and clubs for middle and high school mathematics competitions. Teachers will learn about topics that are important for contests and how to lead club contest preparation activities.

Steven R. Dunbar

Mathematical Association of America; American Mathematics Competitions, Lincoln, Nebraska

Steven Blasberg

West Valley College, San Jose, California

Bernardo Abrego

California State University–Northridge, Northridge, California

Leroy Wenstrom

Mathematical Association of America; American Mathematics Competitions, Columbia, Maryland

Bonnie Leitch

Mathematical Association of America; American Mathematics Competitions, New Braunfels, Texas

140 B (Convention Center) capacity: 125

235

U.S. Shirts: A Worthwhile Algebra Task to Promote Communication and Connections (6–12) Gallery Workshop

Do you use worthwhile tasks in your algebra class? Engage in a rich algebra task about a custom T-shirt business that uses students' prior knowledge and experiences to develop new mathematical understandings and to promote students' ability in reasoning, communication, and making connections. Graphing calculators will be used and handouts provided.

Sami Briceño

Carnegie Learning, Inc., Pittsburgh, Pennsylvania

147 A (Convention Center) capacity: 243

236

Algebraic Equity for All: Using Algebra Blocks to Reach All Students

(6–12) Gallery Workshop

Attendees will receive a set of algebra blocks, a homemade version of algebra tiles. They will learn how to use these blocks to teach a variety of prealgebra and algebra concepts. Attendees will also learn how to move their teaching from the concrete representation using the blocks to pictorial and abstract representations.

Annette Ricks Leitze

Ball State University, Muncie, Indiana

152 A (Convention Center) capacity: 226

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237

Green Math: Algebraic Investigations of Environmental and Social Issues

(9–12) Gallery Workshop

Using the Internet for research and data from the WorldWatch Institute, the FBI, and the CIA, students investigate bivariate data concerning environmental and social issues. You can bring real-world problem solving to your students in Algebra 1 through calculus. Various regression techniques will be used to fit mathematical models to the data.

Ronald Armontrout

Hotchkiss School, Lakeville, Connecticut

102 B (Convention Center) capacity: 204

238

Enhancing AP Statistics with Fathom and the TI-Nspire™

(9–12) Gallery Workshop

When used appropriately, technology has the ability to illuminate important concepts in AP statistics. Using Fathom and the TI-Nspire, explore ideas from the four major AP statistics syllabus topics: data analysis, sampling and experimental design, probability and simulation, and statistical inference.

Paul L. Myers

Woodward Academy, College Park, Georgia

159 A/B (Convention Center) capacity: 109

239

“Come, Watson, the Game Is Afoot!” Strengthening Deductive Reasoning through Games

(9–12) Gallery Workshop

Break the code in Mastermind, solve the sequence in Coda, or catch the criminal in Scotland Yard. Participants will learn and play games that teach specific curriculum objectives and reinforce the NCTM Standards. This session will focus on converting students’ game strategies and experiences into the proper use of deductive logic in proofs.

Michael Robert Patterson

Advanced Technologies Academy, Las Vegas, Nevada

Independence H/I (Hyatt) capacity: 95

2:00 p.m.–3:00 p.m.

LOR 240

LGBT: Remembered in Diversity, Forgotten in Equity

(General Interest) Session

Though not often discussed, data suggests that schools are not doing justice with our lesbian, gay, bisexual, and transgender (LGBT) students. Explore this evidence and how one teacher can make a difference. Leave this session with general strategies as well as math specific examples that help LGBT students reconnect to the classroom.

Grant Gregory Goettl

Madison Metropolitan School District, Madison, Wisconsin

203 A/B (Convention Center) capacity: 150

241

Renew Yourself By Teaching Math In Another Country

(General Interest) Session

Whether you are a new teacher, a seasoned veteran, or are retired, you have much to offer and learn by teaching in another country. An experienced panel will share their experiences and respond to your ideas/questions about teaching internationally.

Stuart Moskowitz

Humboldt State University, Arcata, California

Cathy Seeley

Past President, National Council of Teachers of Mathematics; Charles A. Dana Center, University of Texas at Austin, Austin, Texas

Diane Schnellhammer

Department of Defense Dependent Schools, Ramstein High School, Ramstein, Air Base, Germany

146 A (Convention Center) capacity: 423

242

The Secret Life of Symbols

(General Interest) Session

Symbolic representation is one of the great achievements of humankind. In this session we will take a nature tour of the algebraic world, seeking out specimens in their natural habitat that exhibit the hidden richness of algebra. Examples will be taken from science, economics, and history, and from elementary, middle, and high school classrooms.

William McCallum

William McCallum, Tucson, Arizona

202 B (Convention Center) capacity: 418

THURSDAY

**243**

Mathematics: An Inequitable Discipline in the Public Eye?

(General Interest) Session

Math is an inequitable discipline in the media. NCTM challenged the maker of Barbie dolls over equity. What should be challenged today—movies, television, books, newspapers, toys, jobs? Where should we start? A 2007 TV show had a school system sued over sex education and what was not taught. Come consider some challenging issues.

Johnny W. Lott

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

Ballroom B/C (Convention Center) capacity: 2512

244

Let's Go Hollywood

(General Interest) Session

Bring mathematics to life for your students using Hollywood movies and popular television shows. Participants will examine how to use one- to three-minute video clips to introduce mathematical concepts, stimulate classroom discussions, and motivate students.

Tony Clay

Howard County Public School System, Ellicott City,
Maryland

Renaissance East (Renaissance) capacity: 320

245

Closing the Achievement Gap: Developing Teachers' Knowledge of Early Numeracy (General Interest) Research Session

This study focuses on three teacher cohorts who participated in Math Recovery professional development experiences. Test results show significant increases in both students' achievement and teachers' content knowledge. The speakers will present these findings and identify the factors that attribute to these successes.

Sara Eisenhardt

Northern Kentucky University, Highland Heights, Kentucky

Alice Gabbard

Kentucky Center for Mathematics, Highland Heights,
Kentucky

Jonathan Thomas

Kentucky Center for Mathematics, Highland Heights,
Kentucky

146 C (Convention Center) capacity: 414

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246**It's All about the Math and Reading!****(PreK–2) Session**

Could it be possible to teach language arts standards using mathematics-based literature? Could you use your love for math to support our reading goals? This session will include a video and students' work demonstrating guided reading, reading aloud, shared reading, and poetry lessons taught with mathematics-based literature.

Becky Holden

Battle Academy, Chattanooga, Tennessee

*152 B (Convention Center) capacity: 262***247****Early Learning in Kindergarten Mathematics: A Formula for Success****(PreK–2) Research Session**

This session will present results of a study of a kindergarten mathematics curriculum developed through a grant from the Institute of Education Sciences designed to develop conceptual understanding and fluency necessary for all students to meet high standards in mathematics. Implications for inclusive mathematics instruction will be discussed.

Kathleen Jungjohann

University of Oregon, Eugene, Oregon

Benjamin Clarke

Pacific Institutes for Research, Eugene, Oregon

*Cabin John/Arlington (Hyatt) capacity: 88***LOR 248****Making Math Accessible to English Language Learners (ELLs): Bridging the Gap for Primary School Students****(PreK–2, Teacher of Teachers) Session**

Mathematics learning can be challenging for ELLs when math materials are dense with text, vocabulary, and multiple concepts. The speakers will share how we used text-spare but visually and conceptually rich Japanese materials to augment our instruction, fostering number and operation sense in all students, but particularly with ELL students.

Mary N. Leer

School District of Lancaster, Lancaster, Pennsylvania

Marianne Burkholder

School District of Lancaster, Lancaster, Pennsylvania

Jennifer Baer

School District of Lancaster, Lancaster, Pennsylvania

*150 B (Convention Center) capacity: 248***249****Different Tools for Different Young Math Learners****(PreK–2, Teacher of Teachers) Session**

Differentiating math curriculum requires teachers to assess before they teach. This session will look at students along the standards continuum with multiple ways to meet their mathematical needs. Learn new energizers, games, songs, and routines that will help you set up a math-lab approach in your classroom.

Donna Marie VanderWeide

Staff Development for Educators, Peterborough, New Hampshire

*Constitution B (Hyatt) capacity: 196***LOR 250****Toward Computational Fluency: How to Promote Children's Invented Strategies****(PreK–2, Teacher of Teachers) Session**

This session will discuss children's invented strategies for whole-number computation, including why the flexible methods of computation must be taught before teaching traditional algorithm. View video clips of children using invented strategies and traditional algorithms to discuss how each approach influences their understanding.

Myoungwhon Jung

Northern Illinois University, DeKalb, Illinois

Kathleen A. Kostos

Northern Illinois University, DeKalb, Illinois

*Grand Ballroom South (Renaissance) capacity: 430***251****Mathematical Cultural Carpet Ride, Grades K–5****(PreK–5) Session**

Climb onto a carpet ignited with literature and history and powered by math. Celebrate the diversity in your class with multicultural lessons that engage and teach algebra, geometry, and measurement.

Catherine Kuhns

Country Hills Broward School Board, Coral Springs, Florida

Congressional Hall A (Renaissance) capacity: 198

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252

Math on the Brain: Using Brain-Based Research to Enhance Students' Mathematical Performance

(PreK–5, Teacher of Teachers) Session

Do boys and girls learn differently? Are there different strategies and methods for working with boys and girls in math classrooms? This presentation will address these two important questions by examining the research on brain-based differences. Various activities that foster math learning in boys and girls will be shared.

Kathy Jo Piechura-Couture

Stetson University, DeLand, Florida

Elizabeth D. Heins

Stetson University, DeLand, Florida

Mercedes Tichenor

Stetson University, DeLand, Florida

Independence A (Hyatt) capacity: 800

253

Alternative Algorithms: Where Do They Come From?

(3–5) Session

This session will look at a variety of alternative algorithms and how they are generated. Teachers do not use alternative algorithms because they do not make sense. This session is intended to help teachers recognize how alternative algorithms are generated and developed through the use of manipulative materials, number charts, and other means.

Ann Wallace

James Madison University, Harrisonburg, Virginia

145 B (Convention Center) capacity: 278

LOR 254

Empowering Native American Learners through Brain-Compatible Math Instruction

(3–5, Teacher of Teachers) Session

Tell, or don't tell? Your answer can make the difference for your Native American students. Brain-compatible research indicates that too much telling leaves students powerless. Explore how to liven up your lessons with strategies that help you more effectively meet the needs of Native American students as well as other English language learners.

Debbie Scruggs

Kokopelli Educational Consulting, Albuquerque, New Mexico

151 B (Convention Center) capacity: 284

LCR 255**Sharing Cat Games and Cookies: Students with Learning Disabilities Investigate and Represent Multiplication and Division****(3–5, Teacher of Teachers) Session**

A class of fourth-grade students with learning disabilities used investigative activities to learn multiplication and division. The students adapted many of the activities to express their individual interests, to challenge their own thinking, and to represent and communicate their mathematical knowledge.

Susan B. Taber

Rowan University, Glassboro, New Jersey

Michele Canonica

Radix Elementary School, Williamstown, New Jersey

209 A (Convention Center) capacity: 107**LCR 256****Differentiating Instruction for Gifted and Struggling Students****(3–8, Teacher of Teachers) Session**

If pairing those students who understand with those who are struggling is your only strategy for differentiating instruction, then you'll want to come to this session. Learn ways to differentiate so that all your students are being taught appropriate mathematics every day.

Rita H. Barger

University of Missouri—Kansas City, Kansas City, Missouri

103 B (Convention Center) capacity: 164**257****Differentiated Instruction through the CRA Methods****(3–8, Teacher of Teachers) Session**

Using concrete, representational, and abstract (CRA) methods, learn to respond to students' needs with materials, process, and depth to which students are working. Modeling and discussion will include how to adjust levels through instructional and questioning techniques to meet the needs of both struggling and high-achieving students.

Jodi O'Meara

Manatee School District, Bradenton, Florida

Auditorium (Renaissance) capacity: 282**258****Family Math Night: A Step-by-Step Guide to Success****(3–8, Teacher of Teachers) Session**

Learn how to organize and run a successful Family Math Night. Participants will review an adaptable timeline, explore funding sources, consider activities, and strategize how to get attendance. With comments like "Thanks, this was a nice way for parents to be involved," these events are not only fun but true school-to-family relationship builders.

Paul V. Ridgway

Rahway Public Schools, Rahway, New Jersey

Sara Torpey

Linden Public Schools, Linden, New Jersey

Lafayette Park (Hyatt) capacity: 78**259****Relationships, Relevance, and Rigor: Meeting the Needs of Struggling Students in Middle School Mathematics****(6–8) Session**

"I don't like math!" "I don't get it!" Have you heard these comments in your classroom? Reaching struggling students in mathematics is a challenge. Join us to learn about activities and assessments we have implemented so students build their own understandings, see the relevance, think critically, and—the bottom line—experience success!

Sarah Smith

Louisa County Middle School, Mineral, Virginia

Temple Walkowiak

University of Virginia, Charlottesville, Virginia

Wendy Allanson

Louisa County Middle School, Mineral, Virginia

207 B (Convention Center) capacity: 426**LCR 260****Teaching Problem Solving to Students with Learning Disabilities and High-Functioning Autism****(6–8) Session**

This session will outline the unique cognitive profile of children with learning disabilities and high-functioning autism that contribute to difficulties in problem solving. Participants will understand how executive dysfunction impacts NCTM Process Standards. Ten evidenced-based strategies will be presented.

Peggy J. Schaefer Whitby

University of Central Florida, Orlando, Florida

Farragut Square (Hyatt) capacity: 72

261**Laugh Out Loud: Comics and Content in the Classroom****(6–8) Session**

Spend an hour laughing and learning as you explore using comics to study mathematical content. Ideas for modifying and using existing comics to meet standards will be shared, as well as how to use comics to drive problem solving. You'll never read the funny pages the same way again!

Melinda R. Griffin

College of William and Mary, Williamsburg, Virginia

Kay Bennett

College of William and Mary, Williamsburg, Virginia

Christine Smith

Williamsburg–James City County Public Schools,
Williamsburg, Virginia

Independence F/G (Hyatt) capacity: 120

262**Reaching Out to All Students: Building Mathematical Connections through Multiple Representations****(6–8, Teacher of Teachers) Session**

Attendees will work on middle school problems that can be solved by creating, reasoning through, and connecting multiple representations. Discussions on the different approaches will help attendees understand how problems that use multiple representations allow learners with different learning styles or abilities to learn mathematics meaningfully.

Preeti Nigam Tripathi

State University of New York—College at Oswego, Oswego,
New York

Renaissance West B (Renaissance) capacity: 162

263**10 Things Every Middle School Student Should Know for Calculus****(6–12) Session**

Calculus? Yes, calculus. Calculus may seem like a long way off, but preparation for calculus must begin today. Share and learn from a former Advanced Placement calculus teacher some of the primary concepts and strategies every middle school student should know for calculus. You might be surprised!

Valija C. Rose

College of William and Mary, Center for Gifted Education,
Williamsburg, Virginia

Wilson/Roosevelt (Hyatt) capacity: 88

264**Living with Accountability: Setting Directions, Avoiding Unintended Consequences****(6–12) Session**

High-stakes assessments are likely here to stay. What are some of the unintended consequences of high school high-stakes assessments? What is their impact on teachers and students? How might they support high-quality mathematics learning?

Linda Rosen

Education and Management Innovations, Inc., Bethesda,
Maryland

Daniel Chazan

University of Maryland, College Park, Maryland

144 C (Convention Center) capacity: 156

265**The Competitive Advantages from Financial Mathematics Education****(6–12) Session**

How can you make students globally competitive? By educating them in the math underlying financial decision making. Maryland's Financial Teacher of the Year will present a successful curriculum applying exponential functions to interest compounding, statistics to stock and bond returns, and ratios and proportions to financial statement analysis.

Julien H. Meyer

Saint Paul's School, Brooklandville, Maryland

204 C (Convention Center) capacity: 135

**266****Teaching the Multilevel Math Class****(6–12) Session**

No matter how carefully students are tested and placed, math classes become multilevel. This session will introduce ways middle school through adult education classes can be structured to involve every student. Participants will experience these structures in the session receiving handouts with additional suggestions and resources.

Judith Pinales Diamond

Adult Learning Resource Center, Chicago, Illinois

147 B (Convention Center) capacity: 255

267

“Seeing What You Know” Does Not Equal “Knowing What You See”: Visual Insight with Sketchpad®

(6–12) Session

Familiar mathematics can surprise us in unfamiliar contexts. Our brains favor the visual, yet we usually teach the symbolic. Pi, functions, and real-number operations will all appear as we visually explore high school topics from algebra to calculus.

Steve Rasmussen

Key Curriculum Press, Emeryville, California

Ballroom A (Convention Center) capacity: 1442

268

How to Integrate SMART Boards™ and TI-Nspire™ Creatively and Effectively: Handheld, Emulator, Desktop Software

(6–12, Teacher of Teachers) Session

Incorporate these fascinating technologies. Learn how to place your daily class notes online in color as PDFs and audio podcasts. Easily create videos of your class presentations when you are absent. Integrate Nspire documents as investigations, reviews, examples, tutorials, study cards, and more. Obtain a CD with hundreds of activities.

Tom Reardon

Fitch High School, Youngstown, Ohio; Youngstown State University, Youngstown, Ohio

140 A (Convention Center) capacity: 154

269

Cinematographic Video: Window on Effective Practices That Stimulate and Sustain Students’ Healthy Discussions

(6–12, Teacher of Teachers) Session

Cinematographic video of actual teachers’ practice is a powerful medium for learning how to conduct healthy class discussions. Using multicamera video with high-quality audio recordings of students’ conversations, this session will highlight particular practices expert teachers used to generate and maintain meaningful mathematical discussions.

Thomas E. Ricks

Louisiana State University, Baton Rouge, Louisiana

Meeting Room 12/13/14 (Renaissance) capacity: 90

270

Not So Complex: A Visual Tour of Imaginary Numbers

(9–12) Session

Take your understanding of imaginary numbers to a new level. Using the dynamic visualization capabilities of The Geometer’s Sketchpad, we’ll gain mathematical insights into imaginary number arithmetic, DeMoivre’s Theorem, Euler’s formula, and even how to find buried treasure!

Daniel Scher

Key Curriculum Press Technologies, New York, New York

149 A/B (Convention Center) capacity: 174

271

Teaching Statistical Inference with Dynamic Media

(9–12) Session

This session demonstrates examples of activities that incorporate dynamic media files to help students understand statistical inference. These multirepresentational examples use readily available software (e.g. Excel, Flash, SmartView) and are freely downloadable. Participants will be asked to provide feedback and suggest further developments.

Joe Garofalo

University of Virginia, Charlottesville, Virginia

158 A/B (Convention Center) capacity: 137

272

Student-Developed Research Projects: Helping All Students Become Analytical Problem Solvers in Any Classroom

(9–12, Higher Education) Session

Help develop process standards in your students by requiring them to complete an original research project. Students will love this opportunity to be creative and will be challenged by the complexities of conducting research. Teachers will leave this session with multiple ideas for integrating students’ research into classrooms and communities.

Lindsay Noakes

Western Michigan University, Kalamazoo, Michigan

Mary Schroth

Battle Creek Mathematics and Science Center, Battle Creek, Michigan

156 (Convention Center) capacity: 156

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273

Financial Algebra: Exploring Algebraic Thinking, Patterns, and Functions in a Financial Context

(9–12, Teacher of Teachers) Session

Financial Algebra is an algebra-based, technology-oriented, applications course that can be offered as a substantive third-year course or a senior elective. In this session, participants learn how algebra plays an important role as a sense-making and predictive tool in the world of finance, economics, and everyday living.

Richard Sgroi

Fox Lane High School, Bedford, New York

102 A (Convention Center) capacity: 144



A Unique Mathematics Intervention Class for Struggling Ninth- and Tenth-Grade Students

(9–12, Teacher of Teachers) Session

The speaker will showcase an urban high school's "safety net" for struggling mathematics students. Instead of remediating unsuccessful students, the school accelerated them into a double-block class that would fill in the gaps and provide grade-level content. Teaching strategies, assessment data, students' work, and logistics will be shared.

Mark I. Koester

Gateway High School, Aurora, Colorado

209 B/C (Convention Center) capacity: 213



275

Geometrically Increasing Mathematical Self-Efficacy with Climate Control—Classroom Climate, That Is

(Higher Education) Session

This session addresses the mind-and-heart connection implicit in mathematics self-efficacy. Intimidating mathematical principles become familiar concepts when diverse learning styles are recognized in a courteous, hospitable, and grateful classroom climate. Mathematics anxiety is reduced, and mathematics achievement rises.

Fred Savitz

Neumann College, Aston, Pennsylvania

Ryan Savitz

Neumann College, Aston, Pennsylvania

Renaissance West A (Renaissance) capacity: 162

276

Learning Mathematics as a Second Language

(Higher Education, Teacher of Teachers) Research Session

This session will synthesize research in language acquisition, respected learning theories, and hierarchical models of mathematical learning and mastery into a framework defining stages of mathematical learning. Thus, research in language acquisition guides mathematics education practices for both traditional and English language learner students.

Michael J. Bosse

East Carolina University, Greenville, North Carolina

Marjorie Ringler

East Carolina University, Greenville, North Carolina

Renwick/Bulfinch (Hyatt) capacity: 72

277

Using Digital Stories in Mathematics: Changing Views and Changing Practice

(Higher Education, Teacher of Teachers) Session

This presentation will focus on a project implemented in a secondary mathematics methods course in which preservice teachers created digital stories that captured the life of a mathematician. The speakers will share the stories, students' reflections, and our reflections of this process.

Lynn Liao Hodge

University of Tennessee, Knoxville, Tennessee

Vivian Wright

University of Alabama, Tuscaloosa, Alabama

Elizabeth Wilson

University of Alabama, Tuscaloosa, Alabama

Meeting Room 5 (Renaissance) capacity: 58

Come, Connect, Communicate

Grades 9–12

Meet with educators who share your interests to discuss how to improve teaching and learning in grades 9–12. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)

Come, Connect, Communicate

Emerging Technology

Meet with educators who share your interests to discuss how to improve teaching and learning related to the latest and greatest in technology. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

2:30 p.m.–3:30 p.m.

Exhibitor Workshop 17

Carolina Curriculum

Math Out of the Box: Number Game

Describe the patterns in the world around us through the various representations of numbers using addition, subtraction, multiplication, division, fractions, decimals, and probability in Math Out of the Box, an inquiry-based math curriculum developed at Clemson University. Participants will be engaged in hands-on activities that students would use to explore number concepts from the program's Developing Numbers Concepts strand.

*Room 143 A (Convention Center)***Exhibitor Workshop 18**

Pearson

**Scott Foresman–Addison Wesley
enVisionMATH: The Next Generation of
Problem Solving**

Are you ready to meet the needs of the next generation of learners in the mathematics classroom? Through activities in this workshop, participants will learn strategies to engage a range of learners through problem-based, interactive learning and pictorial representations for solving problems. (Grades K–6)

*Room 143 B (Convention Center)***Exhibitor Workshop 19**

Mind Research Institute

**The Number Line? Animate it to Teach and
Reach (Grades 1–3)**

The Animated Number Line builds non-language-based, visual understanding of “difference,” place value, and multidigit addition. Develop number sense, basic facts, and computation through hands-on activities that increase understanding and retention for all students. Handouts provided.

*Room 143 C (Convention Center)***Exhibitor Workshop 20**

Dinah-Might Adventures, LP

**Teaching Math with Foldables®:
Interactive Graphic Organizers**

Learn how Dinah Zike's Foldables®, interactive hands-on graphic organizers, can re-energize the way you teach and the way your students study. Make your own examples and get strategies for implementing this powerful learning tool.

Room 144 A (Convention Center)

3:00 p.m.–4:30 p.m.

278**Sudoku Variations: Supporting
Understanding across the Mathematics
Curriculum****(General Interest) Gallery Workshop**

Tired of hearing that Sudoku puzzles aren't about math? This session will explore a number of Sudoku variations that can be used in support of many different mathematical concepts, including ones from the Number, Geometry, Algebra, Communication, Reasoning and Proof, and Connections Standards. Come prepared with an open mind and a sharpened pencil.

Jeffrey J. Wanko

Miami University, Oxford, Ohio

*146 B (Convention Center) capacity: 340***279****Developing the Meaning of Addition and
Subtraction through Problem Solving****(PreK–2) Gallery Workshop**

Through hands-on activities, participants will explore the four basic structures for addition and subtraction story problems. Using these story problems, participants can help their students apply their early number concepts to understand the operations and their symbols better.

Heather Dyer

Howard County Public School System, Ellicott City, Maryland

Leslie Brickner

Howard County Public School System, Ellicott City, Maryland

*Grand Ballroom Central (Renaissance) capacity: 337***280****5, 4, 3, 2, 1 ... Lift Off to Math and Space
Science Activities****(PreK–2, Teacher of Teachers) Gallery Workshop**

Capitalize on your student's enthusiasm for space science! Cement early algebraic concepts! Use manipulative math experiences in this exciting, new NASA curriculum. Hone measurement skills and explore the creation of lunar craters and learn the affect of crashing meteorites. A robust language arts component supports the learning.

Sally Feldman

West Contra Costa Unified School District, Richmond, California

Blanche Malankowski-Smith

Education Consultants, Education Development Center West, Oakland, California

Constitution A (Hyatt) capacity: 180

281**Concept Mapping for Elementary School Mathematics: An Assessment Tool****(PreK–5, Teacher of Teachers) Gallery Workshop**

Participants will be provided with an opportunity to engage actively in hands-on, minds-on “concept mapping” assessment techniques in mathematics that will reach students at the concrete, pictorial/transitional, and symbolic levels. Critical thinking, problem solving, and decision making will be emphasized.

Nancy Gallenstein

Coastal Carolina University, Conway, South Carolina

Marilyn Larmore

University of Southern Mississippi, Hattiesburg, Mississippi

Meeting Room 8/9 (Renaissance) capacity: 60**282****Rhythm and Hues: Teaching with the TI-10****(PreK–5, Teacher of Teachers) Gallery Workshop**

Discover how music, literature, manipulatives, and the TI-10 and SMART Board build conceptual understanding and make mathematics fun! Hands-on activities are designed for all young learners. Specific work samples from students, and special needs, will be addressed. Participants will leave with ready-to-use lessons.

Chris RudaTeachers Teaching with Technology (T³), Miami, Florida**147 A (Convention Center) capacity: 243****283****Metrics Can Be the American Way****(PreK–8, Teacher of Teachers) Gallery Workshop**

Participants will be astonished at how *easy* and *fun* it can be to teach metrics. Lucky teachers will measure, dance, and explore measurement in ways few knew were possible. You'll leave with a *kilo* of ideas and plenty of activities ready for Monday morning. Metrics will no longer be the “come back to” chapter.

Jennifer A. Hataway

Beacon Cove Intermediate School, Jupiter, Florida

Nancy Bourne

Beacon Cove Intermediate School, Jupiter, Florida

Independence D/E (Hyatt) capacity: 95**284****Got Game? Getting All Your Students into the Game of Math****(3–5, Teacher of Teachers) Gallery Workshop**

Games can be engaging and effective. The presenters will share experiences as special-education and Title I teachers using games to help students get into and win in the game of math. Differentiating games that use readily available materials will be explored.

Joanne Berndt

Consultant, Tonawanda, New York

Sandy Stinson Overcash

Math Specialist, Virginia Beach, Virginia

206 (Convention Center) capacity: 323**285****Intervention with Differentiation****(3–5, Teacher of Teachers) Gallery Workshop**

How do you manage interventions so that you meet the needs of all your math students? You manage your interventions through differentiation! Differentiation will allow you to spend time with the students who need you most. This session will focus on organizing your classroom to promote students' success.

Stephen R. Duncan

Council Rock School District, Newtown, Pennsylvania

Daniel J. Faber

Council Rock School District, Newtown, Pennsylvania

Grand Ballroom North (Renaissance) capacity: 298**286****Fractions: Unpacking the Myths****(3–8, Teacher of Teachers) Gallery Workshop**

Is $\frac{1}{2}$ always greater than $\frac{1}{3}$? Does multiplying by $\frac{2}{2}$ double a fraction? Explore these and other myths about fractions that may be inadvertently supported by curricula. Participants will receive rich mathematical problems and strategies for modifying their existing programs to engage students with exploring and disputing these myths.

Julie McNamara

University of California, Berkeley, Berkeley, California

Meghan M. Shaughnessy

University of California, Berkeley, Berkeley, California

159 A/B (Convention Center) capacity: 109



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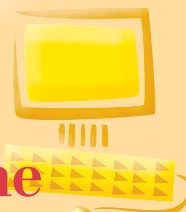
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287**I Know What N Is! Making Connections among Models, Tables, Graphs, and Equations****(3–12) Gallery Workshop**

The student who “knows what N is” can connect one representation to another in order to make sense of the concept of function. A problem-solving task using pattern blocks or Cuisenaire rods will be used to help *all* students make connections among a model, a table, a graph, and an equation while fostering algebraic habits of thinking.

Kim Hartweg

Western Illinois University, Macomb, Illinois; Keokuk Community School District, Macomb, Illinois

140 B (Convention Center) capacity: 125**288****Patterns, Problem Solving, Literature, and Discourse for Middle School****(6–8) Gallery Workshop**

Engage in activities designed to build mathematical knowledge through patterns, problem solving, literature, and discourse. We will focus on cooperative learning structures and replication in participants’ classrooms. Access to handouts will be available, as well as awesome door prizes.

Belinda Langham

Drury University, Springfield, Missouri

144 B (Convention Center) capacity: 96**289****Prime Power: Making Sense of Every Number’s Unique Properties****(6–8) Gallery Workshop**

What is your favorite number? What mysteries does it hold? Engage your students in a hands-on approach to factoring and making sense of numbers from a new perspective. Diverse activities will investigate how multiplication, division, remainders, factors, multiples, squares, roots, and even terminating and repeating decimals can be related.

Mary J. DeYoung

Hope College, Holland, Michigan

151 A (Convention Center) capacity: 291**290****Making Sense of Area and Problem Solving Using Real-World, Geoboard Applications****(6–8) Gallery Workshop**

This session will explore how to teach area and problem solving using geoboards and exploration as the primary tools. Emphasis on helping all students make sense of these concepts will be considered. Hands-on activities and materials will be provided for classroom use.

James Truelove

Southwest Baptist University, Bolivar, Missouri

Calli Holaway-Johnson

University of Arkansas, Fayetteville, Arkansas

154 A/B (Convention Center) capacity: 162**291****Rational Number Operations with Meaning: It’s Tough, But You’ll Do It after This Workshop****(6–8) Gallery Workshop**

You will learn to recognize fourteen problem types that students find in the real world. You will learn to teach these types of problem solving using manipulatives and pictorial representations. Finally, you will learn how to develop these same understandings in your students. There is no gee-whiz mathematics in this workshop.

Philip P. Halloran

Central Connecticut State University, New Britain, Connecticut

208 A/B (Convention Center) capacity: 95**292****Math Forum, Online Workshops, Problem Solving, Technology, and You!****(6–8, Teacher of Teachers) Gallery Workshop**

Participants will engage in sample online professional development activities and investigate some mathematics topics common to middle school curricula. This session will explore the Math Tools library, technology problems of the week, and software tools that contribute to mathematical understanding, problem solving, reflection, and discussion.

Suzanne Alejandre

The Math Forum @ Drexel, Philadelphia, Pennsylvania

204 A/B (Convention Center) capacity: 227

3:00 p.m.–4:30 p.m.

293

Using Mathematics and a Children's Book to Explore Issues of World Hunger**(6–8, Teacher of Teachers) Gallery Workshop**

Using the delightful children's book *One Grain of Rice* as a springboard, world hunger will be explored through the lens of mathematics. Beginning with this story about a young girl who requests a seemingly modest reward for her honesty, participants will explore patterns, variables, functions, measurement concepts, data analysis, and graphs.

Jamie K. Fugitt

College of the Ozarks, Point Lookout, Missouri

Independence H/I (Hyatt) capacity: 95

294

Why Mosquitoes Have Skinny Legs, and Other Geometric Oddities**(6–12) Gallery Workshop**

Explore areas and volumes to see how a kilogram of super-gnats could carry away Washington, D.C., why elephants have fat legs, and whether 320 pounds of kindergartners are stronger than Shaquille O'Neal. After using manipulatives, geometric reasoning, and number patterns, graph some real-world data to see whether people are super-gnats, too!

Mark Schlawin

Princeton Charter School, Princeton, New Jersey

145 A (Convention Center) capacity: 244

295

It's Not Just Origami: It's Also Mathematics!**(6–12) Gallery Workshop**

The speaker will discuss how origami has educational and mathematical benefits. Participants will fold paper into a tetrahedron, fish, and pentagonal dipyramid and then learn the mathematical concepts illustrated. Volume, surface area, and the four-color theorem can all be understood through origami.

Ann Hanson

Columbia College, Chicago, Illinois

201 (Convention Center) capacity: 326

296

The Art of Creating Problems**(6–12) Gallery Workshop**

Teachers all wish to use high-level, challenging problems in their teaching, but where do these problems come from? This session will give you some time-tested strategies for creating your own math problems, and perhaps change your view on the "typical" mathematics problem!

Brian Beaudrie

Plymouth State University, Plymouth, New Hampshire

Barbara Boschmans

Plymouth State University, Plymouth, New Hampshire

202 A (Convention Center) capacity: 368

297

Starting Lesson Study at Your School: Latest Resources and Experience from the Field**(6–12, Teacher of Teachers) Gallery Workshop**

Learn what lesson study is, why it is powerful, and how to start. Participate in activities from new lesson study resources. Through first-hand experience analyzing content and pedagogy in one algebra lesson, see how typical lesson study discussion and subtle lesson revisions can build teachers' knowledge and enable students' learning.

Jane Gorman

Education Development Center, Inc., Newton, Massachusetts

Johannah Nikula

Education Development Center, Inc., Newton, Massachusetts

102 B (Convention Center) capacity: 204

298

Theory \Rightarrow Practice: Using Thought—Full Discourse to Reach and Hear All Students**(6–12, Teacher of Teachers) Gallery Workshop**

Materials will be shared that focus on research-based assessment practices and strategies. Participants will then engage in a variety of secondary-level problems, and assess strategies employed to orchestrate discourse. Grade-level groups will work collaboratively to design plans for using specific problems in a problem-centered lesson.

Sheldon Berman

Rowan University, Glassboro, New Jersey

Congressional Hall B (Renaissance) capacity: 132

299

Ratios in Geometry: Surprises, Uses, Concepts**(9–12) Gallery Workshop**

When ratios in geometry are mentioned, one may think first of similar triangles. Ratios, however, occur many places in geometry. If you cultivates an eye for ratios, you can make constructions, solve problems, and even see into the essential nature of geometry. This presentation will demonstrate each of these aspects of geometrical ratios.

James Richard King

University of Washington, Seattle, Washington

101 (Convention Center) capacity: 170

300**Multiple Representation, Investigating, Conjecturing, Engagement, and Connecting Algebra and Geometry: The Power of the TI-Nspire™ Calculator****(9–12) Gallery Workshop**

Teachers will experience how TI-Nspire calculators can be used as a tool to make their classrooms a center for enhancing the understanding of concepts through hands-on engagement in algebra and geometry. Multiple representation connecting dynamic geometry, spreadsheets, and functions will result in investigation and conjecturing.

Jerry Cummins

National Council of Supervisors of Mathematics, Western Springs, Illinois

150 A (Convention Center) capacity: 226

301**Visualizing Math with Technology: Strategies to Encourage Reluctant and At-Risk Learners to Embrace Mathematics****(9–12) Gallery Workshop**

Participants will actively engage in cooperative group activities that incorporate NCTM Process and Content Standards using TI-84 Plus graphing calculators and other manipulatives. The session will cover topics in general mathematics, algebra, logic, and probability.

Kathleen McKinley

School District of Lancaster, Philadelphia, Pennsylvania

Mary Coe Collins

School District of Philadelphia, Philadelphia, Pennsylvania

152 A (Convention Center) capacity: 226

302**As the Tennis Ball Rolls****(9–12) Gallery Workshop**

Participants will roll a wet tennis ball on large paper grids to form a line and a parabola. Multiple representations will then be used to develop algebra, geometry, precalculus and calculus concepts by hand and using a graphing calculator. This is a hands-on, inexpensive activity that integrates many levels of mathematics.

Kathleen Cage Mittag

University of Texas at San Antonio, San Antonio, Texas

207 A (Convention Center) capacity: 339

303**Building Kaleidoscopes: Reflecting on Geometry****(9–12) Gallery Workshop**

Discover the mathematics and science within a kaleidoscope, build your own kaleidoscope, and take back a fun and interesting project for your geometry class. Explore the relationship between angle measures and reflected images, line symmetry, rotational symmetry, and more.

Kim McComas

University of Arkansas, Fayetteville, Arkansas

Independence B/C (Hyatt) capacity: 95

304**Some Truly Olympic Activities****(9–12, Higher Education) Gallery Workshop**

Give students practice with descriptive statistics, regression, and hypothesis testing based on data from the Olympic Games and from in-class “athletic” activities. These activities require students to select the appropriate method of analysis for a variety of statistical situations. Suitable review activities for the AP exam will be included.

Mary Mortlock

California Polytechnic State University, San Luis Obispo, California

Matt Carlton

California Polytechnic State University, San Luis Obispo, California

Constitution C/D/E (Hyatt) capacity: 200

305**Teachers Inspiring Problem Solvers: Target State Standards and NCTM's Curriculum Focal Points****(Teacher of Teachers) Gallery Workshop**

Engage in solving problems that stimulate deep processing of mathematical concepts. Experience instructional strategies that emphasize visual, hands-on processing, the use of multiple representations, and focused discourse. Select a sequence of students' work for sharing to scaffold students' conceptual development. Free samples will be available.

Cathy Brown

Teachers Inspiring Problem Solvers, Redmond, Oregon

Winnie Miller

Oregon Council of Teachers of Mathematics, Lake Oswego, Oregon

103 A (Convention Center) capacity: 232

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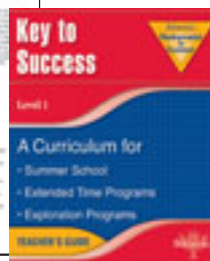
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LOR 306**Learn↔Reflect Reflection Session****(General Interest) Session**

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

Professional Development Services Committee

National Council of Teachers of Mathematics, Reston, Virginia

146 C (Convention Center) capacity: 414

307**Confronting Numerical Illiteracy: Did the Focal Points Get It Right?****(General Interest) Session**

Widespread numerical illiteracy is of concern to educators and business leaders. See how students can learn to reason with numbers and build a foundation for success with algebra. A shift in ways to teach arithmetic will be modeled. Findings will be shared from the speaker's work with teachers, parents, mathematicians, and business leaders.

Ruth Parker

Mathematics Education Collaborative, Ferndale, Washington

Renaissance East (Renaissance) capacity: 414

308**How to Make an Informed Decision: Linking Research with the Textbook Adoption Process****(General Interest) Research Session**

This session will provide an overview of several considerations that are important in the math textbook adoption process and discuss their implications for teachers and administrators. The speakers will also discuss research sources on curriculum materials and how they may provide insight for educators undergoing a textbook adoption process.

Jean Sangmin Lee

Indiana University Bloomington, Bloomington, Indiana

Rick Alan Hudson

Indiana University Bloomington, Bloomington, Indiana

Paula Lahann

Indiana University Bloomington, Bloomington, Indiana

Renwick/Bulfinch (Hyatt) capacity: 72

309**Building a Community of Learners: Meeting All Students' Needs****(PreK–2) Session**

See how to build a mathematical learning community that NCTM's *Principles and Standards* and *Curriculum Focal Points* require, using visual models that allow teachers to differentiate instruction and provide small-group learning while all students are involved with open-access math learning centers. Handouts will be available.

Barbara Lynn Blanke

California Polytechnic State University, San Luis Obispo, California

209 B/C (Convention Center) capacity: 213

310**Building Bridges to Mathematical Concepts through Children's Literature****(PreK–2) Session**

Teachers will be introduced to literature that provides a meaningful context in the exploration of a variety of mathematical concepts.

DeLinda Youngblood

Educational Resources Group, Iuka, Illinois

Farragut Square (Hyatt) capacity: 72

311**A Software Intervention to Build Number Concepts and Automaticity: Effects of a Randomized Controlled Trial****(PreK–2) Session**

This session will show the results of a study conducted with 40 grade 2 classrooms, randomly assigned to experimental and comparison conditions. Students spent one hour a week using a software program that presented on-screen conceptual models paired with focused, systematic instruction, targeting number concepts and automaticity with basic facts.

Scott K. Baker

Pacific Institutes for Research, University of Oregon, Eugene, Oregon

Benjamin Clarke

Pacific Institutes for Research, Eugene, Oregon

Arjan Khalsa

IntelliTools, Petaluma, California

Independence A (Hyatt) capacity: 800

312

Beyond Counting and Calendar: Number Sense for Primary School Students

(PreK–2) Session

Children enter school with an informal sense of number gained through natural curiosity. Let's examine how you can facilitate developing the concept of number in students as you consider what number sense is and what experiences would enhance its acquisition.

Lisa Rogers

Math Solutions Professional Development, Sausalito, California

Independence F/G (Hyatt) capacity: 120

313

Effective Games and Practices That Lead to Students' Success

(PreK–2) Session

Experience highly engaging activities and instructional strategies that promote students' greater participation and sense making. A ready-to-use handout will help you enhance mathematical reasoning and build confidence in your students. Discover repeatable, adaptable activities that work well at school and at home.

Laura Choate

Greater San Diego Mathematics Council, California
Mathematics Council, San Diego, California

Wilson/Roosevelt (Hyatt) capacity: 88

314

So, the Other Day I Was ...: Storytelling as a Tool for NCTM Process Standard Integration

(PreK–5, Teacher of Teachers) Session

By couching real-world math problems in well-crafted stories, teachers engage their students in powerful math explorations that naturally integrate NCTM Process Standards. This session will focus on the power of storytelling, storytelling styles, and how to use it to integrate NCTM Process Standards into every math lesson.

Lee Vartanian

Lander University, Greenwood, South Carolina

Meeting Room 12/13/14 (Renaissance) capacity: 90

315

Student's Mathematical Misconceptions and Error Patterns: Causes and Cures

(PreK–5, Teacher of Teachers) Session

This session will explore common error patterns and misconceptions held by students in first through fifth grade. Possible reasons why these occur will be discussed, as well as activities that can help prevent and eliminate them. Vignettes from classrooms across the country will be shared, along with samples of students' work.

Honi Joyce Bamberger

Towson University, Towson, Maryland

Christine Davis Oberdorf

Montgomery County Public Schools, Silver Spring, Maryland

Karren Schultz-Ferrell

Montgomery County Public Schools, Rockville, Maryland

146 A (Convention Center) capacity: 423

316

Is Multiplication Just Repeated Addition? Insights from Japanese Textbooks for Expanding the Multiplication Concept

(3–5) Session

In the United States, multiplication is usually introduced as repeated addition in grade 2 or 3. Is this enough understanding for students to learn multiplication of decimals or fractions and proportional relationships in the future? Learn how Japanese textbooks expand ideas of multiplication using representations.

Makoto Yoshida

William Paterson University, Wayne, New Jersey

Auditorium (Renaissance) capacity: 282

317

Algebraic Reasoning in Elementary School Every Day? Absolutely!

(3–5) Session

How do you change random activities into a program that builds algebraic reasoning skills all year long? Take home the problems that the speakers use every day to make predictions, create generalizations, explore relationships, and learn about the properties of numbers. See how the students work with patterns. Enjoy our daily dose of algebra.

Jacqueline Lois Stewart

Hanover County Public Schools, Mechanicsville, Virginia

Mary M. Davis

Hanover County Public Schools, Mechanicsville, Virginia

Constitution B (Hyatt) capacity: 196

318**Algebra Success for All: Start with Fraction Understanding****(3–8) Session**

This session will explore how to use models to help students develop a deep understanding of fraction concepts to promote quantitative reasoning and lay the foundation for algebra success for all students.

Nadine Bezuk

San Diego State University, San Diego, California

Steve Klass

San Diego State University, San Diego, California

Ballroom A (Convention Center) capacity: 1442**319****Are You Smarter than a Fifth Grader?****(3–8, Teacher of Teachers) Session**

These five authentic Math Olympiad problems were given to about 40,000 fifth graders last year. Can you solve them? Participants will receive another 50 problems (yes, solutions included!) to use with their students.

Richard Kalman

Nassau County Math Teachers Association, Wantagh, New York

Meeting Room 5 (Renaissance) capacity: 58**320****Measuring Fair Shares for All: Contexts for Fraction Division****(3–8, Teacher of Teachers) Session**

Making sense of division with fractions is routinely a challenge for students and teachers. A common procedure of “invert and multiply” is deceptively simple to execute but definitely a challenge to understand. Examine and compare contexts and representations to model meanings and help everyone see what makes sense about “invert and multiply.”

Susan L. Hillman

Saginaw Valley State University, University Center, Michigan

202 B (Convention Center) capacity: 418**321****The Values of Teaching Mathematics: Social Justice and Cultural Connections****(3–8, Teacher of Teachers) Session**

Reducing the opportunity gap and ensuring all students have access to optimal mathematics instruction must be a constant focus. Participants will learn of techniques in maintaining effective mathematics instruction while better connecting what they teach with social issues that entrench the opportunity gap in their communities.

Jim Barta

TODOS: Mathematics for ALL, Salt Lake City, Utah

Vessela Ilieva

TODOS: Mathematics for ALL, Logan, Utah

203 A/B (Convention Center) capacity: 150**322****Ways to Help English Language Learners (ELLs) Become Better Word-Problem Solvers****(3–12) Session**

Word problems present great challenges to ELLs. Helping ELLs succeed in word-problems should start from mathematics teachers' realization that mathematics is a language-bound subject. This session discusses the kinds of struggles that ELLs face and offers instructional strategies to accommodate their unique needs.

Clara Lee Brown

University of Tennessee, Knoxville, Tennessee

JoAnn Cady

University of Tennessee, Knoxville, Tennessee

Renaissance West A (Renaissance) capacity: 162**323****Picture This! Use Sketchpad® to Explore Transformations with Digital Images****(3–12) Session**

The Geometer's Sketchpad has been used for decades to explore geometry. Now the exploration gets richer with new photo-manipulation capabilities. See how transforming digital images provides a whole new way of seeing geometry.

Kendra Lockman

Key Curriculum Press Technologies, Emeryville, California

Ron Lancaster

University of Toronto, Toronto, Ontario, Canada

150 B (Convention Center) capacity: 248

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324**What Is Number Sense, and Why Don't My Students Have It?****(6–8) Session**

Participants will be presented with activities and strategies that can lead to improved number sense in students. The focus of this session will be to delineate the relationship between computational proficiency and number sense. The difference between algebraic thinking and algebraic symbolic manipulation will also be discussed.

Eric Milou

Rowan University, Glassboro, New Jersey

Jill Perry

Rowan University, Glassboro, New Jersey

102 A (Convention Center) capacity: 144

325**Games of Chance: When Is a Game Fair?****(6–8) Session**

When is a game fair? How can you determine the chances of winning a game? In this session, participants will explore the probability of outcomes in different gaming situations. They will connect knowledge of ratios and fractions to procedures used in finding the probabilities of events.

Jim Fulmer

University of Arkansas at Little Rock, Little Rock, Arkansas

Suzanne Mitchell

Arkansas State University, Jonesboro, Arkansas

140 A (Convention Center) capacity: 154

326**Projects to Make Geometry and Measurement Come Alive!****(6–8) Session**

Let your students use their knowledge about measurement and geometry in these five hands-on projects that can enhance your school or community, including patterns and resources for picnic tables, ladder golf, marshmallow blow guns, and two other projects for you to use.

Julie Haux

The Ranches Academy Public Charter School, Eagle Mountain, Utah

144 C (Convention Center) capacity: 156

327**Helping Students Develop an Understanding of Proportionality through Problem Solving and Sense Making****(6–8) Session**

To help students develop an understanding of proportionality, teachers need to pose problems that encourage students to construct proportional reasoning strategies. The speaker will show how to sequence tasks strategically to encourage all students to develop advanced strategies and deeper understandings by analyzing characteristics of problems.

Jessica Audet de la Cruz

Assumption College, Worcester, Massachusetts

149 A/B (Convention Center) capacity: 174

328**Using Strategic Questioning to Improve Algebraic Thinking in Middle School****(6–8) Session**

Strategic Questioning is a vital tool in the teaching of algebraic thinking. Creating a bank of probing questions, using the questions purposefully, and fostering classroom conditions to maximum results will be discussed.

Amelia Ann Lawrence

Capitol Hill Day School, Washington, D.C.

Grand Ballroom South (Renaissance) capacity: 430

329**Teaching Middle Grades Mathematics with Technology: What Should Comprise This Course?****(6–8, Teacher of Teachers) Session**

The speaker has taught “Teaching Middle Grades Mathematics with Technology” for more than twenty years. He will share the content of his course and the results of a survey of college faculty across the United States who teach a similar course. Then he will facilitate a discussion about the issues related to appropriate and needed course content.

Charles Thompson

University of Louisville, Louisville, Kentucky

156 (Convention Center) capacity: 156

330

Grasp the Mathematics through Multiple Representations**(6–12) Session**

Multiple representations—algebraic, graphical, geometric, numeric, and written forms of a problem—give students a more meaningful understanding of mathematics. By using new technologies to customize work areas and show the impact of changes in real time, teachers can supply instruction that offers conceptual learning for all ability levels.

Jane E. Damaske

Lakeshore Public Schools, Stevensville, Michigan

152 B (Convention Center) capacity: 262

331

From Infinity Back: Creating Focus in High School Mathematics**(6–12) Session**

What are some of the big ideas in high school mathematics, and how can we build focus in a research-based way? The speaker will discuss ways to focus learning while still keeping exploration, problem solving, excitement, and technology in our teaching.

Richard Seitz

Helena High School, Helena, Montana

158 A/B (Convention Center) capacity: 137

332

Lines of Best Fit: Fact and Fiction?**(6–12) Session**

It's easy to push the LinReg button, but how and why does a line of best fit really work? What does “regression” mean? How is that related to correlation? And what common misunderstanding appears frequently in textbooks and on tests?

David Bock

Ithaca High School (retired), Ithaca, New York; Cornell University (retired), Ithaca, New York

209 A (Convention Center) capacity: 107

333

Learning from Students' Mathematical Conceptions and Misconceptions**(6–12) Session**

Examples of students' conceptions and misconceptions based on their thinking of algebraic and related number concepts will be discussed. Analyze their thinking, evaluate instruction, and identify instructional strategies that access and integrate students' (mis)conceptions in order to achieve a more meaningful mathematics learning experience.

Olive Chapman

University of Calgary, Calgary, Alberta, Canada

Renaissance West B (Renaissance) capacity: 162

334

Interactive Statistics for All**(6–12) Session**

This session will enhance teachers' understanding of statistics and provide interactive activities for all students to strengthen the teaching of statistics in the math curriculum. Participants will apply concepts in the Guidelines for Assessment in Statistics Education PreK–12 Report (www.amstat.org/education/gaise) and collect, organize, analyze, and draw conclusions from data.

Martha Aliaga

American Statistical Association, Alexandria, Virginia

Rebecca Nichols

American Statistical Association, Alexandria, Virginia

103 B (Convention Center) capacity: 164

335

Research-Based Effective Practices for English Learners**(6–12) Session**

In this session, the presenters will share a number of effective practices that support English language learners' mathematical conceptual understanding. The participants will have an opportunity to experience a number of sixth- to tenth-grade mathematical activities focusing on algebraic thinking.

Adelina V. Alegria

Occidental College, Los Angeles, California

Candace Kelly

Urban Education Partnership, Los Angeles, California

Congressional Hall A (Renaissance) capacity: 198

336

Deepening Teachers' Understanding of Mathematical Concepts through Interdisciplinary Connections**(6–12) Research Session**

This study describes teachers' acquisition of math concepts through their application in physics and geophysics explorations like mountain modeling, density, and water flow analysis. The speakers will discuss teachers' improved mathematical concept understanding in examples of students' works, reflections, and pretests and posttests.

Milijana Suskavcevic

University of Texas at El Paso, El Paso, Texas

Olga Kosheleva

University of Texas at El Paso, El Paso, Texas

Laura Serpa

University of Texas at El Paso, El Paso, Texas

Lafayette Park (Hyatt) capacity: 78

337

Mathematical Humor with a Point: Experience How to Communicate in an Offbeat Way with Students

(6–12, Teacher of Teachers) Session

The speaker will share anecdotes, jokes, cartoons, bad ads, and news stories to illustrate how the miscommunication of math often leads to ridiculous conclusions. Remarks focus on the importance of being mathematically literate—and that the not-so-funny errors your students make are similar to those made by adults.

David B. Spangler

Stet Graphics, Rolling Meadows, Illinois

145 B (Convention Center) capacity: 278

338

Affordable Technology That Makes You a Better Math Teacher without Dominating Your Life

(9–12) Session

The presenter once slept in his rental car to keep costs down at an NCTM Annual Meeting. He asks, “What technology gives the most bang for the buck?” Topics will include Geometers’ Sketchpad, Sketch Up, and leveraging current technology, with a focus on using technology to improve the clarity of instruction and students’ performance.

Robert Lee Williams

Matanuska-Susitna Borough School District, Palmer, Alaska

151 B (Convention Center) capacity: 284

339

Modeling for All: A Closer Look at an Important Topic

(9–12, Higher Education) Session

There is so much more to finding a good mathematical model than comparing the r -squared values! This session will explain the model used to find the slope of the least-squares line, discuss why residuals are important, and clarify a misconception many mathematicians have concerning predicting x -values. Leave with a deeper understanding of modeling.

Robert L Kimball

Wake Technical Community College, Raleigh, North Carolina

147 B (Convention Center) capacity: 255

340

The Role of Universities in Preparing Mathematics Teachers: What We Learned at ICME-11

(Higher Education, Teacher of Teachers) Session

Participants will examine what was learned at the Eleventh International Congress on Mathematical Education (ICME-11) in Monterrey, Mexico, concerning the role of universities in preparing mathematics teachers. NSF and NCTM travel grant awardees will compare and contrast how different countries view this role.

Yvonne Lai

University of California at Davis, Davis, California

Steven Todd Williams

Lock Haven University of Pennsylvania, Lock Haven, Pennsylvania

William McCallum

University of Arizona, Tucson, Arizona

204 C (Convention Center) capacity: 135

341

Developing Preservice Teachers’ Understandings of Middle Grades Students as Learners of Mathematics

(Teacher of Teachers) Session

Explore the knowledge of middle school students needed by mathematics teachers to engage them successfully in standards-based instruction. “Listening interviews” will be described and advocated as a means to understand how young adolescents think and reason about mathematics.

Oliver Frederick Jenkins

Ball State University, Muncie, Indiana

Cabin John/Arlington (Hyatt) capacity: 88

3:30 p.m.–5:00 p.m.

NCTM 342

New Teachers Workshop and Kickoff

(General Interest) Session

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.

Dave Barnes

National Council of Teachers of Mathematics, Reston, Virginia

207 B (Convention Center) capacity: 426

3:30 p.m.–5:00 p.m.

343



Engaging Students in Significant Mathematics (General Interest) Session Lifetime Achievement Awards Presentation

Henry Kepner will give an update of the Council's promotion of mathematics teaching through its focus on curriculum, the dissemination of teachers' and researchers' reflective professional experiences, professional development, and the creation of community and policy support for change.

Henry S. Kepner, Jr.

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

Ballroom B/C (Convention Center) capacity: 2512

4:00 p.m.–5:00 p.m.

Exhibitor Workshop 21

It's About Time

Math Connections: A Standards- Based Mathematics Curriculum

This session will look at three activities that demonstrate how the standards-based program, Math Connections, helps students at all levels of ability achieve success in mathematics. We will show data on how schools have increased students' results on state assessments—the greatest gains being for the lower level students. Presented by Bob Davies

Room 143 A (Convention Center)

Exhibitor Workshop 22

Pearson

Save Time, Increase Understanding, and Make Algebra Exciting!

Find out how to save time, increase students' understanding, and bring excitement back into your mathematics classroom! Join Elayn Martin-Gay, author of *Beginning Algebra 5e* and *Intermediate Algebra 5e*, for hands-on examples and interesting ways to weave more fun into your existing teaching plans. (Grades 9–12)

Room 143 B (Convention Center)

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

Exhibitor Workshop 23

Wizards of the Coast

The Games Kids Play: How to Manage a Successful School Gaming Club

Games can be a great motivator for the student who struggles with focus or motivation. In addition to being fun, games develop numeracy, problem-solving skills, and analytical reasoning—all useful skills in the math classroom. Find out how to organize a successful gaming program in your school, and learn about resources available to help you do so through the Wizards Play Network (WPN).

Room 143 C (Convention Center)

Exhibitor Workshop 24

SMART Technologies

SMART Math Lessons

This workshop explores different ways of integrating the SMART Board interactive whiteboard and SMART Notebook 10 software into the grades K–12 math curriculum. All grade levels will be explored, and attendees will be able to take home SMART Math content after the workshop.

Room 144 A (Convention Center)

Special Event, 5:30 p.m.—6:30 p.m.

"Hard Problems": USA Team at the International Mathematical Olympiad

Experience the premiere of "Hard Problems," and receive a fascinating glimpse into mathematics education and international competition that few get to see. A question-and-answer session will follow the screening.

Renaissance East (Renaissance) capacity: 320



8:00	Confronting Hard Facts, Half-Truths, and Total Nonsense in Education (Session 345)
8:30	
9:00	
9:30	Algebraic Teaching: An End to the Math Wars? (Session 411)
10:00	
10:30	
11:00	Never Could Have Made It: A Tribute to Iris Carl (Session 477)
11:30	
12:00	
12:30	Differentiated Instruction: Specific Strategies for <i>All</i> Students, Including ELLs and Other Learners (Session 519)
1:00	
1:30	
2:00	NCTM Business Meeting (Session 581) Dividing Fractions: A Cognitive-Based Approach to Instruction and Assessment (Session 600)
2:30	
3:00	
3:30	The Missing Ingredients in Mathematics Teaching: Language and Cognition (Session 656) Coherence, Connections, and Communication, <i>and</i> Fraction Sense (Session 684)
4:00	
4:30	New Teacher Celebration! (Session 685)
5:00	



Focus of the Year



New Teacher Strand



**NCTM Committee
Presentation**

Registration Hours

7:00 a.m.–4:00 p.m.
East Registration
(Convention Center)

Exhibit Hours

8:30 a.m.–5:00 p.m.
Exhibit Hall D/E
(Convention Center)

Bookstore Hours

7:30 a.m.–5:30 p.m.
West Registration
(Convention Center)

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.

**344**

Diverse Voices: Critical Issues of Identity and Power in Math Teaching and Learning

(General Interest) Session

Equity Coalition Presentation

Learn how a handful of students working out of a Stadium School classroom soon grew to include more than 120 tutors serving at least 200 students throughout the city. In this session the speakers will explore issues of identity and power—and organizing—as crucial factors on the road to excellence for all children.

Rochelle Gutierrez

University of Illinois at Urbana-Champaign, Urbana-Champaign, Illinois

145 B (Convention Center) capacity: 278

**345**

Confronting Hard Facts, Half-Truths, and Total Nonsense in Education

(General Interest) Session

There is abundant evidence—“hard facts”—regarding what educators can do to make their schools more effective in promoting learning for students and

adults alike. This session will address some hard facts and alert you to some dangerous half-truths regarding contemporary school improvement.

Rick DuFour was a public school educator at Adlai Stevenson High School in Lincolnshire, Illinois, for thirty-four years, serving as a teacher, principal, and superintendent. During his tenure, Stevenson became what the United States Department of Education has described as “the most recognized and celebrated school in America.” He is the author of nine books and more than fifty professional articles, and he has consulted with school districts, state departments, and professional organizations throughout North America on strategies for improving schools.

Rick DuFour

Consultant, Smith Mountain Lake, Virginia

Ballroom A (Convention Center) capacity: 1442

**The proposal deadline
for the 2010 Annual
Meeting and Exposition
is May 1, 2009. Go to
www.nctm.org/speak to
submit your proposal!**

346

Web 2.0: A Tipping Point for Bridging the Digital Divide in Math Achievement?

(General Interest) Session

The emerging technologies have the potential to transform the way students learn and teachers teach math. At this session participants will be treated to some compelling vignettes of how average students in two urban middle schools were inspired to do some extraordinary mathematics using computer microworlds and collaborative Web 2.0 tools.

Ihor Charischak

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

Renaissance West A (Renaissance) capacity: 162

347

Equitable Strategies for Developing Classroom Assessments

(General Interest) Session

This session will introduce and discuss strategies that can be used to create classroom assessments that provide an equitable testing situation for all students. These strategies will include Universal Design and common strategies used in the creation of standardized tests.

Jason Beasley

Pearson, Austin, Texas

Eric Moyer

Pearson, Austin, Texas

Renaissance West B (Renaissance) capacity: 162

348

Math through the Eyes of a Child

(PreK–2) Session

Participants will learn about cognitively guided instruction (CGI). This session will describe how children think and learn mathematical concepts. Teachers will be shown how principles of CGI can be implemented in their classroom.

Cynthia Jane Graham

Plano Independent School District, Plano, Texas

Jane Curry

Baylor University (Retired), Waco, Texas

144 C (Convention Center) capacity: 156

349

Think! Communicate! Justify!

(PreK–2) Session

Your students are mathematicians! Ideas, activities and problems will be shared to empower your students to become confident problem solvers, good questioners, and critical thinkers.

Mickey Jo Sobierajski

Fulton City Schools, Fulton, New York

149 A/B (Convention Center) capacity: 174

350**I.M.P.A.C.T. (Inexpensive Math Products All Children Touch) Math****(PreK–2) Session**

Have you ever gone math bowling? Ever do the ice cube shake? How about played popsicle math? This witty, hands-on, kid-friendly presentation shows grades K–2 teachers how literature and inexpensive classroom and household items make perfect manipulatives that will make your students ask for more math time.

Kim Mueller

Lumberton Township School District, Lumberton, New Jersey

152 B (Convention Center) capacity: 262**351****Fractions: Fundamentals and Fun****(PreK–5) Session**

This session will focus on developing an appropriate language for explaining fractions to students, offer games and activities to engage students' interest, and make suggestions about helping students through a constructivist approach to fractions.

Kurt D. Acton

Valparaiso University, Valparaiso, Indiana

150 B (Convention Center) capacity: 248**352****A New Math Game for Reasoning about the Basic Facts****(PreK–5, Teacher of Teachers) Session**

Looking for a new way to get your students thinking about $+$, $-$, \times , and \div ? Learn how to get your students to use reasoning and proof while they practice their basic facts with friends. Based on brain research, this game of strategy will get your students excited about learning. You have not seen anything like this before.

Mary Kay Bacallao

Mercer University, Atlanta, Georgia

Lafayette Park (Hyatt) capacity: 78**353****Educators of Native American Students (EONAS): Resources for Teachers****(PreK–8) Session**

EONAS is a subgroup of TODOS. The TODOS liaison for EONAS will show how the Standards for Effective Pedagogy provide a foundation for students to achieve success. The standards are from findings by researchers with students at risk of failure due to cultural, language, racial, geographic, or economic factors.

Richard Sgarlotti

Hannahville Indian School, Wilson, Michigan

203 A/B (Convention Center) capacity: 150**354****Implementing Standards Based on NCTM's Curriculum Focal Points: The Florida PROMiSE Project****(PreK–8) Session**

Florida revised its grades K–8 mathematics standards so that they are aligned with the *Curriculum Focal Points*. This session will describe a large-scale, systemic professional development program for teachers and principals developed by Florida PROMiSE, a statewide math-science partnership, to help them implement the new state standards.

Gladis Kersaint

University of South Florida, Tampa, Florida

Joy Bronston Schackow

University of South Florida, Tampa, Florida

Ballroom C (Convention Center) capacity: 1442**355****If the Perimeter Increases, Does the Area Increase, Too? Activities for Grades 3–5****(3–5, Teacher of Teachers) Session**

The relationship between perimeter and area is difficult for third- to fifth-graders. Participants will engage in several hands-on activities that have been tested with children, including a mathematical expansion on the book *Spaghetti and Meatballs for All*. The session will conclude with a brief discussion of Liping Ma's findings.

Larry Feldman

Indiana University of Pennsylvania, Indiana, Pennsylvania

151 B (Convention Center) capacity: 284**356****Focus in Grade 5: Teaching with Curriculum Focal Points****(3–5, Teacher of Teachers) Session**

The speakers will discuss NCTM's new book, *Focus in Grade 5: Teaching with Curriculum Focal Points*, which elaborates on the grade 5 focal points in NCTM's *Curriculum Focal Points* for prekindergarten through grade 8 mathematics. Special attention will be paid to research-based representations for the division algorithm and for fractions.

Sybilla H. Beckmann

University of Georgia, Athens, Georgia

Karen Fuson

Northwestern University (Emerita), Fallbrook, California

202 B (Convention Center) capacity: 418

357

Curriculum Integration Activities for Preservice Elementary School Teachers

(3–5, Teacher of Teachers) Session

This session will examine mathematical activities to use with preservice elementary school teachers. Learn ways of integrating language arts, science, and social studies into the classroom with the hope of reducing the mathematics anxiety that many preservice teachers feel. The speaker will also examine various forms of technology to use.

Adam Goldberg

Southern Connecticut State University, New Haven, Connecticut

102 A (Convention Center) capacity: 144

358

Diagnostic Assessment and Intervention in Mathematics

(3–8) Session

An approach to diagnosis and intervention will uncover what is known and not known, uncover how fundamental concepts and processes are understood, and reveal gaps in conceptual knowledge. Ways of acting will be probed to determine sources of difficulties so that processes and knowledge that underpin numeration and computation can be established.

George Booker

Griffith University, Brisbane, Queensland, Australia

209 A (Convention Center) capacity: 107

359

Should There Be One and Only One Way to Do Multiplication?

(3–8, Teacher of Teachers) Session

In this session several multiplication algorithms will be presented and justified—Egyptian, Russian, Japanese, and Chinese. Participants will learn how to connect these methods to real-world problems.

Cheng-Yao Lin

Southern Illinois University Carbondale, Carbondale, Illinois

140 A (Convention Center) capacity: 154



360

Adolescent Identity Formation, Mathematics Content, and Reflective Abstraction Initiates Synergy: Combined Results Greater than Individual Effects

(3–12) Session

Synergy is the interaction of two or more agents where their combined result is greater than the sum of their individual effects. Using reflective, abstractive initiatives is a method to connect the needs of students' identity formation with the required mathematics content to get student's greater results in achievement and self-actualization.

Alan Zollman

Northern Illinois University, DeKalb, Illinois; School Science and Mathematics Association, DeKalb, Illinois

209 B/C (Convention Center) capacity: 213



361

Filling the Gap: Using Mathematics in the Middle Grades to Teach Social Justice

(6–8) Session

The purpose of this session is to help teachers use mathematical content to facilitate lessons where students examine contemporary social issues. Session activities will illustrate the social stories that mathematics can reveal. Crucial features of such lessons will be emphasized.

Lisa L. Poling

Ohio State University, Columbus, Ohio

Diana Erchick

Ohio State University at Newark, Newark, Ohio

158 A/B (Convention Center) capacity: 137

362

Geometric Forensics

(6–8) Session

This session will demonstrate ways to use geometric problem solving. In Pennsylvania, there are many hex signs (circles with geometric drawings) on barns. Given part of a hex sign, we will use properties of circles in order to recreate the entire hex sign. Other methods of using geometry to solve problems will be discussed as well.

Elizabeth K. Mauch

Bloomsburg University, Bloomsburg, Pennsylvania

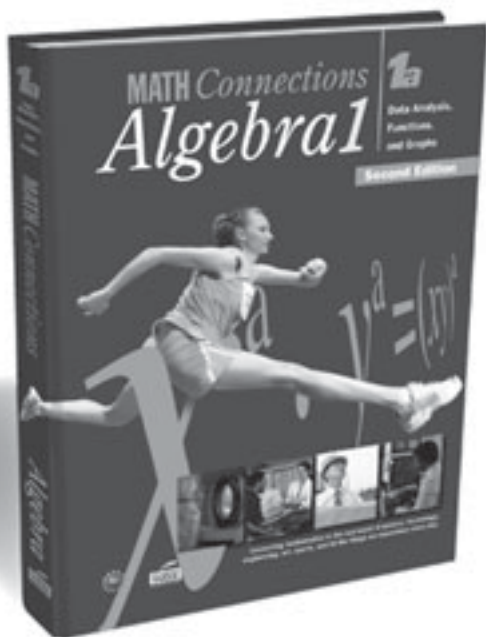
James W. Mauch

Cedar Crest College, Allentown, Pennsylvania

Auditorium (Renaissance) capacity: 282

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or visit our Web site at www.its-about-time.com**



363**Guessing at Word Problems: A Path to Algebra****(6–8) Session**

Participants will work with In-Out tables. Then they will be presented with traditional word problems and begin guessing at the answers. Their guesses can be used to generate charts. A combination of tables and charts will solve the problems algebraically. This method can be used with any type of word problem and involves students in thinking.

Diane Resek

San Francisco State University, San Francisco, California

Meeting Room 12/13/14 (Renaissance) capacity: 90

364**Proportional Reasoning Problem-Solving Strategies of Middle-Grades Girls and Boys****(6–8) Research Session**

The speakers will discuss various problem-solving strategies used by boys and girls, in a middle-grades school with single-gender classes, to solve nonroutine mathematical tasks focused on proportional reasoning. Attendees will explore gender-based patterns in students' strategies and teaching strategies that can challenge all students to reason proportionally.

Megan Che

Clemson University, Clemson, South Carolina

Elaine Wiegert

Clemson University, Clemson, South Carolina

156 (Convention Center) capacity: 156

365**Math Anxiety and Middle School Girls****(6–8) Research Session**

Math anxiety can have a detrimental effect on students, especially females. It can cause lower self-esteem and decline in math achievement. Middle school teachers need to address math anxiety more consciously. This workshop will explore research that looks at factors that produce and reduce math anxiety, including the presenter's research.

Martha Baklarz Croley

Kinnelon School District, Kinnelon, New Jersey

204 C (Convention Center) capacity: 135

366**Discussion and Writing in Understanding Mathematics: How It Works and How to Make It Work****(6–8) Research Session**

Discussion and writing in the classroom encourage deeper understandings of mathematics. Three studies, and their results and implications, will be reviewed in brief. These studies focus writing sophistication and algebraic reasoning, discussion and math achievement, and how both writing and discussion promotes mathematics understanding.

Karl Wesley Kosko

Virginia Polytechnic Institute and State University, Blacksburg, Virginia

Cabin John/Arlington (Hyatt) capacity: 88

367**"No Child Left Behind!" Building Algebraic Foundations with Fractions, Decimals and Percents****(6–8, Teacher of Teachers) Session**

Middle school teachers whose students need a stronger conceptual understanding of fraction, decimal, and percent representations and problem solving will learn hands-on activities appropriate and engaging for struggling learners. The activities presented will help build the foundation for algebra success.

Johnette Winfrey

Learning Resources, Vernon Hills, Illinois

Independence A (Hyatt) capacity: 800

368**Procedures for the Multiplication and Division of Fractions: Why Do They Work?****(6–8, Teacher of Teachers) Session**

Experience theme-based story problems that build patterns to reveal these procedures. Use pictures, words, and number patterns to help students write the rules! TI-34 MultiView and virtual manipulatives will support the investigation.

Margo Lynn Mankus

Consultant, Texas Instruments, Beacon, New York

Meeting Room 5 (Renaissance) capacity: 58



369

The Geometer's Sketchpad®–Not Just for Geometry: Using Sketchpad® to Explore Algebraic and Trigonometric Functions

(6–12) Session

Participants will learn slider and animation capabilities of Geometer's Sketchpad to demonstrate change in parameter effects on the graphs of polynomial, exponential, and trigonometric functions, and conic sections.

Virginia Anne Fraser

University of Virginia, Charlottesville, Virginia

Congressional Hall A (Renaissance) capacity: 198**370**

Show and Go with Mimio! Whiteboard Activities That Engage and Inspire

(6–12) Session

See how to harness the capabilities of an interactive whiteboard. Graphing, games, Web sites, Geometer's Sketchpad, digital photography, and assessment techniques will be demonstrated in the context of highly interactive minilessons. All activities will be made available to participants.

Susan Socha

Fairfax County Public Schools, Arlington, Virginia

Constitution B (Hyatt) capacity: 196**371**

Alien Contact: Using GPS-Enabled Handhelds to Gain Proportional Reasoning Strategies

(6–12, Teacher of Teachers) Session

Participants will learn about, experience, and share feedback on an augmented-reality curriculum unit in which students use global-positioning-system (GPS)–enabled, handheld devices to walk around a “crash site,” using proportional reasoning to access and interpret virtual clues and determine why aliens have landed on Earth.

Rebecca Noelle Mitchell

Harvard Graduate School of Education, Cambridge, Massachusetts

103 B (Convention Center) capacity: 164**372**

Meeting the Special Needs of English Language Learners (ELLs) in Mathematics Classrooms

(6–12, Teacher of Teachers) Session**TODOS: Mathematics for ALL presentation**

ELLs need targeted language assistance to construct mathematics knowledge, but this involves more than just a language objective in a mathematics lesson. This session will include classroom-tested strategies to enhance mathematics language development and is appropriate for middle and high school teachers.

William A. Jasper

TODOS: Mathematics for ALL; Sam Houston State University, College Station, Texas

207 B (Convention Center) capacity: 426**373**

Middle School Students Learn to Reason Proportionally through Mathematical Investigations

(6–12, Teacher of Teachers) Session

In this interactive session the presenter will demonstrate how one rich, open-ended task involving liquid measurement is used in a seven-day unit to help seventh-grade students develop proportional reasoning. Students' strategies and reflections, and the instructional method guiding the unit, will be presented and discussed.

Blidi S. Stemn

Hofstra University, Hempstead, New York

Wilson/Roosevelt (Hyatt) capacity: 88**374**

Making Connections between Students' Thinking and Practice

(6–12, Teacher of Teachers) Session

Understanding what students are thinking about the math they are doing can provide a framework for designing lessons. Research strongly suggests that such formative assessments, along with tasks that have a high level of cognitive demand, make a difference in what students learn.

Gail Burrill

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

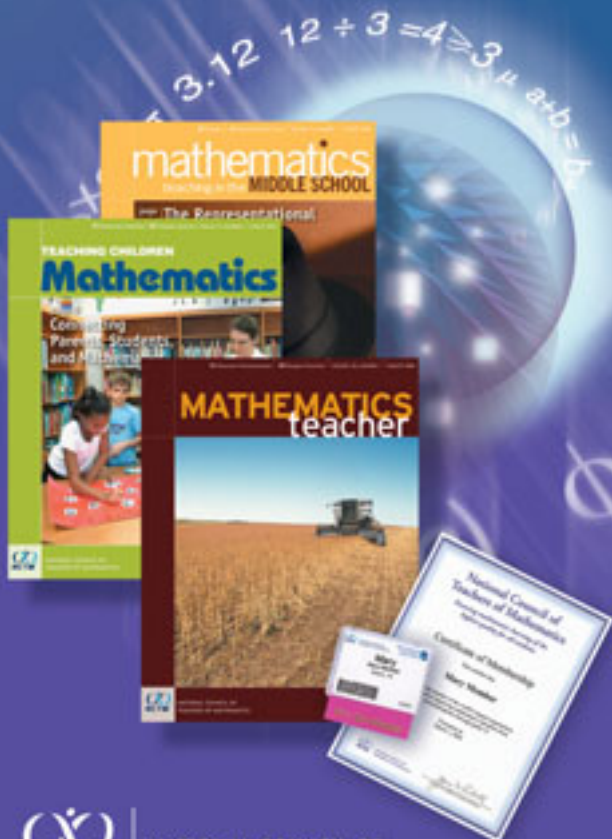
Ballroom B (Convention Center) capacity: 1440

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**Some restrictions apply.*



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

8:00 a.m.–9:00 a.m.

375

Correcting Students' Common Misconceptions in AP Statistics

(9–12) Session

This session will look at student misconceptions that lead to frequently encountered student errors on the AP Statistics exam. Classroom strategies for correcting these misconceptions will be discussed and several activities suitable for classroom use will be demonstrated.

Roxy Peck

California Polytechnic State University, San Luis Obispo, California

146 C (Convention Center) capacity: 414

376

Making the Connections

(9–12) Session

Using connections across mathematical topics and with other subject areas helps students create better understanding while learning new concepts. This session includes lessons that connect geometry, probability, data analysis, algebra, science, literature, and more. Bring a calculator!

Fred Dillon

Board of Directors, National Council of Teachers of Mathematics; Strongsville City Schools, Strongsville, Ohio

Renaissance East (Renaissance) capacity: 320

377

Doing Word Problems: Reflecting on Changes to Practice

(9–12) Research Session

Participants will view an animation of classroom interaction around a word problem and will discuss challenges involved in the teaching of word problems. The presenter will use the participants' reactions to the animation and reactions of participants in research study groups to outline how the teaching of word problems has changed and is changing.

Daniel Chazan

University of Maryland, College Park, Maryland

Renwick/Bulfinch (Hyatt) capacity: 72

378**Exploring Calculus through Interactive Animations: Using Motion and Change to Teach Motion and Change****(9–12, Higher Education, Teacher of Teachers) Session**

Explore interactive computer animations (Sketchpad) that literally bring calculus to life as the study of motion and change. Appropriate teaching strategies will be emphasized. Topics will include limits, derivatives, integrals, related rates, volumes, and more.

Audrey Weeks

Calculus In Motion, Burbank, California; Campbell Hall School (retired), Burbank, California

*146 A (Convention Center) capacity: 423***379****NCTM's High School Curriculum Project: Putting Reasoning and Sense Making at the Center****(9–12, Higher Education, Teacher of Teachers) Session**

This session gives an update on NCTM's High School Curriculum Project, including an overview of "Focus on High School Mathematics," which builds on *Principles and Standards* to argue that reasoning and sense making should be at the center of high school math. Other activities of the project will also be discussed.

W. Gary Martin

Auburn University, Auburn, Alabama

Henry S. Kepner, Jr.

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

Judith Reed Quander

National Council of Teachers of Mathematics, Reston, Virginia

*Grand Ballroom South (Renaissance) capacity: 430***380****The MathMentor: An Online Career and Math-Mentoring Program for High-Potential, Low-Income Students****(9–12, Teacher of Teachers) Session**

Explore an online mentoring program for high-potential, low-income students in which mathematicians and scientists work with students to solve mathematical problems and identify connections to career options. Learn about feedback and discourse that develop communication and problem-solving skills.

Mai Sidawi

The Math Forum @ Drexel, Philadelphia, Pennsylvania

Independence F/G (Hyatt) capacity: 120**381****Teaching Three "Mathematics for Elementary School Teachers" Courses Online to Native American Students****(Higher Education) Session**

This session will present the successes and challenges of the combination of an introductory, face-to-face meeting, followed by online instruction of the three-course sequence, "Mathematics for Elementary School Teachers" for Native Americans.

William Leo Blubaugh

University of Northern Colorado, Greeley, Colorado

*Farragut Square (Hyatt) capacity: 72***382****Preparing Teachers of Mathematics: Issues and Challenges****(Higher Education, Teacher of Teachers) Session**

This session will highlight issues and challenges in recruiting, preparing, and supporting teachers of mathematics. Strategies and activities will be shared that are supported by the Association of Mathematics Teacher Educators. Audience input will be sought.

Barbara J. Reys

President, Association of Mathematics Teacher Educators; University of Missouri—Columbia, Columbia, Missouri

147 B (Convention Center) capacity: 255

8:30 a.m.–9:30 a.m.

Exhibitor Workshop 25**Macmillan/McGraw-Hill and Glencoe****Problem Solving: Bump It Up!**

Problem solving is more than teaching skills and strategies. Students must be able to solve higher-order thinking (H.O.T.) problems. Problems must be "bumped up" to higher levels. Come find out about these types of problems!

*Room 143 A (Convention Center)***Exhibitor Workshop 26****Pearson****Visual Representations in Secondary Mathematics**

Focus on the importance of using visual representations to aid in conceptual understanding and development in secondary school mathematics. (Grades 6–12)

Room 143 B (Convention Center)

8:30 a.m.–9:30 a.m.

Exhibitor Workshop 27**The Master Ruler/Master Innovations, LLC****Mastering Measurement Skills—Fractions, Scale Drawing, and More—Easily!**

Learn exciting, innovative, research-based methods to teach measurement, fractions, scale drawing, and more. Hands-on activities provide practical application leading to student/teacher success, ease, and enjoyment. Meet standards. Have fun! Hand-outs/materials provided.

*Room 143 C (Convention Center)***Exhibitor Workshop 28****Math for America****Math for America: A Community of Math Teachers**

Math for America's fellowship programs create and retain communities of talented math teachers that focus on students' success.

Room 144 A (Convention Center)

8:30 a.m.–10:00 a.m.

383**Providing Rich Experiences for Mathematically Inexperienced Students****(PreK–2) Gallery Workshop**

In this workshop you will practice hands-on activities and games and be introduced to lessons that provide math-literacy connections to be used with students who are considered at-risk, who are English language learners, or who come from a home environment that provides little or no experience in numeracy and literacy.

Jeanne White

Elmhurst College, Elmhurst, Illinois

*208 A/B (Convention Center) capacity: 95***384****Time In: Hands-On Ideas to Support Learning Clock Reading and Other Time-Related Concepts****(PreK–2, Teacher of Teachers) Gallery Workshop**

This session focuses on the design and construction of aids proven to be successful in helping children grasp the passage of time, time comparisons and differences, elapsed time, and other concepts of time measurement. In particular, participants will construct a device that makes reading an analog clock to the nearest minute a “timely” matter.

William R. Speer

University of Nevada Las Vegas, Las Vegas, Nevada

*151 A (Convention Center) capacity: 291***NT 385****Number Skills and Concepts: Understanding and Teaching Key Content for Elementary Grades****(PreK–5) Gallery Workshop**

How do we help students build understanding, learn skills, and use their mathematics? Increase your understanding of key number topics and learn to facilitate skill and understanding of core concepts with your students. Come and get involved.

Neil Pateman

University of Hawaii, Honolulu, Hawaii

Joseph Zilliox

University of Hawaii, Honolulu, Hawaii

*147 A (Convention Center) capacity: 243***386****Energize Your Elementary School Mathematics Instruction with Children's Literature****(PreK–5, Teacher of Teachers) Gallery Workshop**

This session will present landmark pieces of children's literature focusing on mathematics concepts as well as the newest releases. Criteria for selecting books to use as part of mathematics instruction will be shared. Ideas for how to integrate these books will be explored, emphasizing how specific books fit with specific mathematical standards.

Kimberly Heilshorn

Millersville University, Millersville, Pennsylvania

Lesley Colabucci

Millersville University, Millersville, Pennsylvania

*102 B (Convention Center) capacity: 204***387****My Favorite Things: Math, Science, Rainbows, and Chocolate****(PreK–8, Teacher of Teachers) Gallery Workshop**

This interactive session will focus on actively involving students through practical classroom tested activities that connect math and science to children's literature through the use of thematic units. Each participant will receive a booklet containing complete lesson plans and activities correlated to the national math and science standards.

Deborah V. Mink

Winthrop University, Rock Hill, South Carolina

Linda S. Pickett

Winthrop University, Rock Hill, South Carolina

206 (Convention Center) capacity: 323

388**Eureka! I Found It! Ways to Assess All Students Creatively****(3–5) Gallery Workshop**

We will show a unique, interesting way to present the standards to your students—history! Learn about famous mathematicians' work and ways to engage your students in hands-on activities related to their work. A resource manual of biographies, teacher-tested activities, teachers' resources, and assessment tools will be provided.

AnneMarie Hornyak

Mendham Township Elementary School, Brookside, New Jersey; College of Saint Elizabeth, Brookside, New Jersey

140 B (Convention Center) capacity: 125

389**How to Differentiate Learning Using Multidimensional Lesson Plans to Facilitate Algebraic Thinking for Grades 3–5****(3–5) Gallery Workshop**

This workshop will focus on ways to adapt existing resources to develop lessons that create equitable opportunities for students to engage in developing algebraic thinking.

Ella Burnett

California State University, Long Beach, Long Beach, California

154 A/B (Convention Center) capacity: 162

390**Family Measurement Fun****(3–5) Gallery Workshop**

We will discuss activities, strategies, and plans for organizing a Family Measurement Day or Family Measurement Night. Manipulatives will include scales; kilogram, gram, and pound weights; tape measures; and measurement games. Activities will focus on weight, capacity, time, length, and temperature.

Brenda H. Hammond

Montgomery County Public Schools, Silver Spring, Maryland

Josepha Robles

Montgomery County Public Schools, Silver Spring, Maryland

207 A (Convention Center) capacity: 339

391**Beyond Ratio Tables: Understanding the Complexity of Proportional Reasoning****(3–8) Gallery Workshop**

Participants will explore proportional reasoning problems and analyze the complexity of each of the problems. The goal will be to understand why students struggle with proportional-reasoning tasks that involve higher levels of complexity than those that can be solved using ratio tables.

Beatriz S. D'Ambrosio

Board of Directors, National Council of Teachers of Mathematics; Miami University, Oxford, Ohio

Signe E. Kastberg

Indiana University–Purdue University Indianapolis, Indianapolis, Indiana

Kathleen Lynch-Davis

Appalachian State University, Boone, North Carolina

Independence H/I (Hyatt) capacity: 95

392**Using Hands-On Materials and Visuals to Promote Mathematics Learning for Visual, Nonalgebraic Students****(3–8, Teacher of Teachers) Gallery Workshop**

Tables, charts, pictures, manipulatives, and other concrete or pictorial materials can help visual learners grasp algebraic concepts and number relationships that they sometimes fail to comprehend using numerical and algebraic strategies. Hands-on activities and handouts will be discussed and distributed.

Beth Kilday

Sterling College, Sterling, Kansas

101 (Convention Center) capacity: 170

393**Descriptive Feedback and Differentiated Instruction: The Natural Connection****(3–12) Gallery Workshop**

By providing feedback, flexible, small groups naturally occur, allowing teachers to address the needs of learners while increasing students' ownership of learning. Participants will engage in a process that promotes feedback as a tool for differentiating instruction.

Astrid Fossum

Milwaukee Public Schools, Milwaukee, Wisconsin

Sharonda Monae Harris

Milwaukee Public Schools, Milwaukee, Wisconsin

145 A (Convention Center) capacity: 244

**Do not forget your
name badge! Your name
badge is needed to
attend presentations and
explore the Exhibit Hall.**

394**Math for Global Citizenship****(6–8) Gallery Workshop**

Math skills are essential to understanding and solving global issues. Discover innovative, interdisciplinary activities that use data on global population trends, natural resource use, climate change, and land-use patterns to teach measurement, data analysis, problem solving, representation, and more. A free CD-ROM of activities will be available.

Pamela Wasserman

Population Connection, Washington, D.C.

144 B (Convention Center) capacity: 96

NT 395**Ratios to Algebra: Understanding and Teaching Important Content for Middle Grades****(6–8) Gallery Workshop**

Middle grades students move through an understanding of ratios and proportions into algebra. How do we help students build understanding, learn skills, and use their math? Increase your understanding of algebra and ratio topics, and learn to facilitate skill and understanding of core concepts with your students. Get involved, learn, and enjoy!

Barbara J. Dougherty

University of Mississippi, Oxford, Mississippi

146 B (Convention Center) capacity: 340

396***Irrational Numbers? Get Real!*****(6–8) Gallery Workshop**

Even though students are told that irrational numbers are real numbers, most see them as strange, approximated values with little meaning. They likely do not see them as unique points on the number line. We will use physical models to give concrete meaning to pi and other irrational numbers and place them on the *real* number line.

Cheryl Lynn Halcrow

University of North Dakota, Grand Forks, North Dakota

Congressional Hall B (Renaissance) capacity: 132



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397**Let's Tessellate, Escher Style****(6–8) Gallery Workshop**

Blending mathematics and art can provide an opportunity to connect with middle school students who do not see a reason to learn. Although the dialogue will focus on ways to use art and tessellations as a way of reaching all, participants will also create Escher-type tessellations guided by middle-school-friendly instructions.

Martha Yvonne Parrott

Northeastern State University, Broken Arrow, Oklahoma

*Constitution C/D/E (Hyatt) capacity: 200***398****Rubber Bands, Reptiles, and Ratios, Oh My!****(6–8) Gallery Workshop**

Come explore similar figures and the concept of proportional reasoning using rubber band stretchers. Examine similarity using transformations (Rep-Tiles). Throughout the workshop, you will be building an understanding of geometric relationships, scale factors, area, perimeter, and more.

Marilyn Dibble

Eisenhower Middle School, Topeka, Kansas

*Grand Ballroom North (Renaissance) capacity: 298***399****Making Fractions Come Alive in the Middle Years****(6–8, Teacher of Teachers) Gallery Workshop**

Fractions are difficult to teach and to learn. Learn about rich tasks for assessing what students know and can do and common difficulties that students experience. Work through a range of engaging, research-based classroom activities that are likely to build a strong, connected understanding of big ideas in fractions.

Doug McLean Clarke

Australian Catholic University, Melbourne, Victoria, Australia

Anne Veronica Roche

Australian Catholic University, Melbourne, Victoria, Australia

Ann Downton

Australian Catholic University, Melbourne, Victoria, Australia

Rose Knight

Australian Catholic University, Melbourne, Victoria, Australia

*103 A (Convention Center) capacity: 232***400****Making Sense of Algebra: Activities to Engage All Students****(6–12) Gallery Workshop**

Explore algebraic concepts through data-collection activities designed to engage students and make algebraic and geometric connections. The TI-Nspire will be used to graph data and explore multiple representations.

Elizabeth Gasque

Consultant, Charleston, South Carolina

*152 A (Convention Center) capacity: 226***401****Teaching Volume and Surface Area with Unforgettable Results!****(6–12) Gallery Workshop**

Engage in investigating the volume and surface area of pyramids and prisms using “Getting Into Solids.” Examine techniques that encourage students to communicate for success. Explore using the models on exam questions. Also, fold a paper circle into ten geometric figures.

Emily Errthum

Homestead High School, Mequon, Wisconsin

*159 A/B (Convention Center) capacity: 109***402****Access to Algebra: Activities to Promote Achievement for All Students****(6–12) Gallery Workshop**

Participants will engage in a variety of activities designed to give students access to algebraic concepts. Activities will span introductory algebra, second-year algebra, and precalculus.

John A. Carter

Board of Directors, National Council of Teachers of Mathematics; Adlai E. Stevenson High School, Lincolnshire, Illinois

Gwen Zimmermann

Adlai E. Stevenson High School, Lincolnshire, Illinois

Darshan Jain

Adlai E. Stevenson High School, Lincolnshire, Illinois

201 (Convention Center) capacity: 326

403**Integrate Geography and Technology into the Mathematics Classroom****(6–12) Gallery Workshop**

Integrate mathematics with geography and technology through hands-on activities that will engage students. Participants will explore how to use geographical boundaries along with the popular Google Earth software to strengthen algebra concepts of equations and line intersections. Aerial photographs will be used to develop the concept of scale.

Linda Cooper

Towson University, Towson, Maryland

Ming Tomayko

Towson University, Towson, Maryland

Martin Roberge

Towson University, Towson, Maryland

Independence B/C (Hyatt) capacity: 95

404**Reading and Writing in Math Class, Oh My!****(6–12) Gallery Workshop**

In this session you will learn how to incorporate reading and writing activities into the mathematics curriculum. This is a hands-on workshop where you will explore activities with literature books, learn how to tie in writing in the math classroom, and use foldables to enhance note taking.

Ophelia K. Powell

Timber Creek High School, Orlando, Florida

Meeting Room 8/9 (Renaissance) capacity: 60

405**Is It “Fairly Even” or “Really Not?” Using Data to Decide Fairness or Equity****(6–12) Gallery Workshop**

Raw data and graphical representations of data can prove to be powerful tools, especially when we need to gather evidence to support our intuition that a situation is, or is not, fair or equitable. Participants will investigate three such situations where fairness or equitability are in question.

J. Michael Shaughnessy

Portland State University, Portland, Oregon

Fred Rectanus

Teachers Development Group, West Linn, Oregon

202 A (Convention Center) capacity: 368

406**Teaching Precalculus and Calculus Using a Dynamic, 3-D Geometry Environment****(9–12) Gallery Workshop**

Visually and graphically relate the two worlds of solid geometry and algebraic functions. 3-D, dynamic, interactive geometry offers opportunities to address and graph functions by studying the variation of lengths, surfaces, and volumes.

Colette Denise Laborde

University of Grenoble, Grenoble, Isère, France

Barbara Pence

San Jose State University, San Jose, California

Constitution A (Hyatt) capacity: 180

407**Splash or Splat: Modeling the High-Dive Problem from the Interactive Mathematics Program Using Sketchpad®****(9–12) Gallery Workshop**

A diver is released from a rotating Ferris wheel and lands in a tub of water that is on a cart moving along a track under the wheel. When should she be released in order to avoid a very unpleasant outcome? Participants will have an opportunity to model this problem using Sketchpad.

Beth Hickman

Alabama Math, Science, and Technology Initiative, Auburn, Alabama

W. Gary Martin

Auburn University, Auburn, Alabama

Grand Ballroom Central (Renaissance) capacity: 337

408**From Staircases to Handshakes: Pattern Recognition and Formulation from a Rich Family of Problem Situations****(9–12, Higher Education, Teacher of Teachers) Gallery Workshop**

Participants will explore collaboratively the patterns in a rich family of problems involving numerical sequences such as staircases, triangular numbers, handshakes, bike-rides, and PC networks. Generate the recursive and closed relationships, and figure out the connections among the relationships through group presentations and discussion.

Xuhui Li

California State University—Long Beach, Long Beach, California

Independence D/E (Hyatt) capacity: 95

**409**

Enabling All Mathematics Learners in a Second-Language and Second-Culture Environment

(General Interest) Session

Current and historical examples involving mathematics and language in different cultures, such as Hispanic and Native American, will be analyzed relative to standard school algorithms used in the United States, to discover the foundations that affect learning from specific scientific and classroom teaching cultural-mathematical viewpoints.

Joyce Faye Fischer

TODOS: Mathematics for ALL; Texas State University, San Marcos, Texas

158 A/B (Convention Center) capacity: 137

410

How Good is Our Assessment? An NCTM Tool Can Help

(General Interest) Session

Large-scale mathematics assessments are often high-stakes for students and teachers, so quality is of the utmost importance. In this session you will be introduced a tool on the NCTM Web site for evaluating assessments, learn how the tool works, and hear some stories from district and state educators who have used it.

Linda Dager Wilson

American Association for the Advancement of Science, Washington, D.C.

Cathy Brown

Teachers Inspiring Problem Solvers, Redmond, Oregon

Steven Leinwand

American Institutes for Research, Washington, D.C.

Ballroom B (Convention Center) capacity: 1440

Win a **free t-shirt** when you join or renew your **NCTM membership on-site at the NCTM Member Showcase.**

411

Algebraic Teaching: An End to the Math Wars?

(General Interest) Session

Algebraic thinking is hard to define and even harder to teach. The secret? Algebraic teaching! Join the speaker in exploring the difference between algebraic and nonalgebraic teaching,

and see how algebraic teaching may represent the paradigm shift that can end the math wars and lead to programs that actually work.

Greg Tang is a well-known math educator, author, and speaker. He works with school districts and universities to provide professional development opportunities for both in-service and preservice teachers. Most recently, Tang joined Houghton Mifflin Harcourt's team as an author for their new basal math program. Tang is currently working to develop a more intuitive approach to teaching math, one that combines problem solving and arithmetic and integrates math with language and art.

Greg Tang

Houghton Mifflin Harcourt Math, Cambridge, Massachusetts

Ballroom C (Convention Center) capacity: 1442

412

The Top-Ten List for Mathematics Coaching Programs

(General Interest) Session

In this session you will learn about the ten most important features of a mathematics coaching program. Participants will share their thoughts about the most important features of a coaching program and then the top ten list will be revealed! The top ten list is based on the coaching research and successful coaching programs around the country.

Maggie B. McGatha

University of Louisville, Louisville, Kentucky

Congressional Hall A (Renaissance) capacity: 198

413

What about High School Mathematics? Tackling the Last Frontier to Improve Grades K–12 Mathematics Learning

(General Interest) Session

Efforts are under way at all grades to improve school math. High school mathematics seems stuck, in spite of overwhelming evidence that traditional high school math programs have not worked for most students. Discuss drastic steps to improve the system, especially in high school, in light of reform efforts and political challenges.

Cathy Seeley

Past President, National Council of Teachers of Mathematics; Charles A. Dana Center, University of Texas at Austin, Austin, Texas

Independence A (Hyatt) capacity: 800

FRIDAY

414**Math Leadership and Metropolitan America: Toward Civic Responsibility****(General Interest) Session**

This session will discuss the relationship between development regimes associated with “big” science and the developmental sciences of school mathematics. Focus will be on the spatial dimensions of opportunity in metropolitan America discussing trends of mathematics leadership, regional development, research, and civic responsibility.

William Tate

Washington University in Saint Louis, Saint Louis, Missouri
Renaissance East (Renaissance) capacity: 320

415**Professional Development and Improved Instruction through Lesson Study****(General Interest) Session**

Teachers and school administrators will relate their challenges and successes in improving teaching and learning of mathematics in urban schools through collaborative lesson study.

Judy M. Jackson

University of Alabama at Birmingham, Birmingham, Alabama

Shelia V. Patterson

Alabama Department of Education, Montgomery, Alabama
Renaissance West A (Renaissance) capacity: 162

**416****Building on Students' Thinking in the Mathematics Classroom: Research, Practice, and Equity****(General Interest) Research Session**

Members of NCTM's Research Committee will share research-based activities and approaches for revealing, understanding, and using students' mathematical thinking in the classroom. They will illustrate ways of focusing on students' mathematical thinking that can help maximize the learning potential of all students.

Research Committee

National Council of Teachers of Mathematics, Reston, Virginia

204 C (Convention Center) capacity: 135

417**Math Night: So Easy a Caveman Can Do It****(PreK–2) Session**

Have you ever wanted to host a math night at your school but did not know where to begin or what to do? We have a formula for implementing a successful math night. Learn how to plan one and get parents and students excited about attending.

Joyce Moon

Sangaree Elementary School, Summerville, South Carolina

Sandra Powers

College of Charleston (Retired), Charleston, South Carolina

Runette Ford

Sangaree Elementary School, Summerville, South Carolina

Ellen Hutto

Berkeley County Schools, Moncks Corner, South Carolina

102 A (Convention Center) capacity: 144

418**Frame It Up! Using Literature, Food, Fun, and a Ten-Frame Model****(PreK–2) Session**

Come explore the ways that literature, food, and, of course, fun can be incorporated with a ten-frame model to help children develop number concepts. Participants will see the value of a ten-frame model in developing fluency in basic math facts.

Susan Jenkinson

Springdale Elementary School, West Columbia, South Carolina

203 A/B (Convention Center) capacity: 150

419**Teaching for Conceptual Understanding: Powerful Connections for the Young Child****(PreK–2, Higher Education) Session**

“We understand something if we see how it is related or connected to other things we know.” This quote from an NCTM resource is the focus of this presentation. Video clips of classroom experiences, samples of children's work, assessment interviews with young children, and a variety of examples that highlight connections will be shared.

Juanita Copley

University of Houston, Houston, Texas

151 B (Convention Center) capacity: 284

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**420**

Equity-Centered, Grades K–5 Mathematics Instruction: Are You Committed?

(PreK–5) Session

Valuing the mathematical knowledge that *all* students bring to the learning community is a cornerstone of equity-centered instruction. This session will provide concrete ideas of how tasks and activities can be used to extract untapped mathematical knowledge that exists “within” students, their out-of-school experiences, families, and communities.

Shonda Lemons-Smith

Georgia State University, Atlanta, Georgia

147 B (Convention Center) capacity: 255**421**

Algebra Is Elementary

(PreK–5) Session

This session will focus on activities that engage elementary-school-age students in algebraic thinking and reasoning. Participants will examine how unknowns, variables, patterns, and functions are included in the math instruction at these grades. There will be handout of the activities as well as suggestions for additional resources.

Louise Vandling

Consultant, Vista, California

Ballroom A (Convention Center) capacity: 1442**422**

Creating a Brain-Friendly Classroom

(PreK–5) Session

Do you know the latest on how the brain learns math? Explore current research on creating a brain-friendly classroom. Strategies will be shared that are based on the work of David Sousa, from his book *How the Brain Learns Mathematics*, which includes brain-friendly engagement activities, prime learning times, and fact acquisition.

Sally B. Kingsley

Howard County Public Schools, Ellicott City, Maryland

Connie Phillips Conroy

Howard County Public Schools, Columbia, Maryland

146 A (Convention Center) capacity: 423**423**

Increasing Students' Mathematical Proficiency through the Use of Multiple Mathematical Representations

(PreK–5, Teacher of Teachers) Session

This session will focus on the effective use of multiple mathematical representations. Participants will engage in problem solving that models the use of multiple representations. Special attention will be given to strategies that allow students with diverse needs to participate fully in, and benefit fully from, the use of these representations.

Chris Anne Youstra

Montgomery County Public Schools, Rockville, Maryland

Jennifer Hallmark

Montgomery County Public Schools, Rockville, Maryland

Jennifer Lynn Klein

Montgomery County Public Schools, Sandy Spring, Maryland

144 C (Convention Center) capacity: 156**424**

Wondering Where's the Wonder in My Classroom? Graphing Discussions as a Catalyst for Wonderment

(3–5) Session

Daily graphs that go beyond simple computational responses include *all* students in classroom discussions that foster higher-order-thinking skill development and increase students' engagement, wonder, and critical thinking. Students' examples of graphing representations will be shared, as well as video clips of students' discussions.

Heather F. McVarish

New York University, New York, New York

Judith McVarish

Saint John's University, Queens, New York

103 B (Convention Center) capacity: 164**425**

Context-Based Problem Solving with Children

(3–5) Session

This interactive session will explore children's understandings and strategies used to solve context-based problems involving number operations. Participants will discuss problem types that allow for mathematical equity in the classroom.

George J. Roy

University of Central Florida, Orlando, Florida

140 A (Convention Center) capacity: 154

426**Financial Literacy + Preservice Teachers + Money Bus = Powerful Learning for All!****(3–5, Higher Education, Teacher of Teachers) Session**

“You mean we get to work with money?” asked a fourth grader. Participants will learn how preservice teachers delivered the Money Bus Program to at-risk children in a free, after-school program. Come share in the powerful journey to financial literacy.

Marylin Leinenbach

Indiana State University, Terre Haute, Indiana

Deborah Flurkey

Indiana State University, Terre Haute, Indiana

156 (Convention Center) capacity: 156**427****Exploring a Framework for Tasks That Analyze Growing Patterns, Grades 3–8****(3–8) Session**

How can you use geometric pattern tasks to promote students' figural reasoning and understanding of functional relationships? The presenters will outline a problem solving process for reasoning when analyzing geometric pattern tasks. A framework for analyzing the complexities of geometric pattern tasks will be discussed.

Susan N. Friel

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Kim Markworth

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

202 B (Convention Center) capacity: 418**428****Equity through Assessment: Task-based Interviews with Latino Students****(3–8) Session****TODOS: Mathematics for ALL presentation**

This session will examine the wealth of information revealed when 15 Latino students were interviewed using National Assessment of Educational Progress measurement items. The speakers will discuss how strategic interviewing can provide an equitable way for assessing Latino students and how this information can be incorporated into instruction.

Anthony Fernandes

TODOS: Mathematics for ALL; University of North Carolina at Charlotte, Charlotte, North Carolina

Cynthia Oropesa Anhalt

TODOS: Mathematics for ALL; University of Arizona, Tucson, Arizona

Marta Civil

TODOS: Mathematics for ALL; University of Arizona, Tucson, Arizona

209 B/C (Convention Center) capacity: 213**429****Fracturing Misconceptions: Having Fun with Fractions****(3–8, Teacher of Teachers) Session**

Does the idea of learning or working with fractions make your students stress out? Then come learn to use integer rods to fracture misconceptions, and to build conceptual knowledge and confidence for operations on fractions. Hands-on manipulative practice, worksheets, and free Web site information will be provided.

Peggy Moch

Valdosta State University, Valdosta, Georgia

152 B (Convention Center) capacity: 262**430****Using Problems and Investigations to Engage and Motivate Middle Years Students****(6–8, Higher Education, Teacher of Teachers) Session**

Research suggests middle years students become disengaged in mathematics if classroom tasks continually focus on lower-order thinking. By transforming commonly used tasks into open-ended problems and providing a supporting classroom environment, teachers are able to enhance the engagement and motivation of all students.

Judy Anne Anderson

University of Sydney, Sydney, New South Wales, Australia

Constitution B (Hyatt) capacity: 196**431****Everyone Wins When Everyone Plays!****(6–8, Teacher of Teachers) Session**

Games provide an enjoyable, effective, and interactive way for students to practice and master skills by helping students develop the ability to think critically, solve problems, and investigate ideas about probability. You will learn games that can be played the next day.

Rochelle Fouts

McGraw Hill, Chicago, Illinois

Independence F/G (Hyatt) capacity: 120**432****Teaching Mathematics to the English Learners****(6–8, Teacher of Teachers) Session**

A mathematics lesson will be conducted in Vietnamese to demonstrate the strategies necessary to relate mathematical concepts in classroom settings with limited-English-proficient students. Participants will be involved in a cooperative learning activity to learn the main concept of the lesson through the use of manipulatives.

Kien Pham

California State University, Fresno, Fresno, California

Lafayette Park (Hyatt) capacity: 78

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Marilyn Burns

Founder of Math Solutions and author of more than 60 books, including Math Solutions' best-selling title, *About Teaching Mathematics: A K-8 Resource, Third Edition*.

Friday, April 24 • 11:00 A.M. – 12:00 P.M.

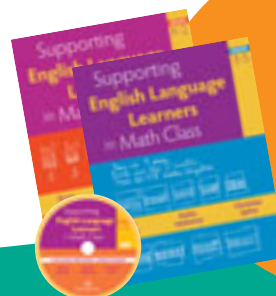


Cathy L. Seeley

NCTM Past President and author of Math Solutions' new book *Faster Isn't Smarter: Messages About Math, Teaching, and Learning in the 21st Century*, based on Seeley's award-winning NCTM President's Messages.

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—Pete Thompson, Principal
Prince George's County Public Schools
Landover, Maryland



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433**Using Technology to Create Humorous Lessons That Captivate Students****(6–12) Session**

This session will demonstrate how technology can be used to create humorous, student-centered lessons. Such characters as Sponge Bob and Superman enter the classroom in surprising ways to transform traditional topics in mathematics into captivating areas of interest for students. The benefits of humor and methods of creating humor will be discussed.

Alice Artzt

City University of New York—Queens College, Flushing, New York

Lysaundra Bisal

H. Frank Carey High School, Floral Park, New York

Eric John Glatz

Queens School of Inquiry, Flushing, New York

Kendal Jones

Junior High School 194, Whitestone, New York

Deepak Joseph

Bayside High School, Bayside, New York;
Queens School of Inquiry, Flushing, New York

Sylvia Liu

Queens School of Inquiry, Flushing, New York

Ricardo Lopez

City University of New York—Queens College, Flushing, New York

Samantha MacKinnon

Intermediate School 93, Ridgewood, New York

146 C (Convention Center) capacity: 414

**434****Changing Opportunities and Changing Lives by Moving Mathematics Forward****(6–12) Session**

Attendees will learn about the eight research-based components designed to function as a system to eliminate the achievement gap. This session will share data on the program's effectiveness and highlight a systemic model for middle school math improvement developed by Texas Instruments and Richardson Independent School District.

Paula Jean Haney

Richardson Independent School District, Richardson, Texas

149 A/B (Convention Center) capacity: 174

435**Enhance Learning and Solidify Concepts: Writing in Mathematics****(6–12) Session**

Integrating writing with mathematical concepts is essential. It promotes ownership, teaches the value of multiple approaches, contributes to equity, and helps students commit learning to long-term memory. Come and learn many different writing activities to enhance learning.

Connie S. Schrock

Emporia State University, Emporia, Kansas

Cabin John/Arlington (Hyatt) capacity: 88

436**Targeted Connections: Experimental Design****(6–12) Session**

Students need to analyze and interpret data. Formulating inquiry questions and collecting, organizing, and describing data will be featured. Participants will describe the type of data and level of measurement, select methods to describe central tendency and variability, select methods to display data, and select inferential statistic methods.

Patricia Lucido

Rockhurst University, Kansas City, Missouri

Margaret Buerman

Northwest Missouri State University, Maryville, Missouri

Meeting Room 5 (Renaissance) capacity: 58

437**The Cornrow Curve by Ron Eglash****(6–12) Session**

This session will present an innovative, real-world software application. The cornrow curve integrates a hot topic called “fractal geometry” with lessons you already teach. Terms such as translations, iterations, rotations, x - and y -axis, and degrees are prevalent throughout this software.

Regina F. Turner

Franklin Military Academy, Richmond, Virginia

Monique D. Harris

Franklin Military Academy, Richmond, Virginia

145 B (Convention Center) capacity: 278

**438****A Peer Tutoring Program Model You Can Use in Your Classroom and Beyond****(6–12) Session**

Learn how a peer tutoring program between at-risk high school students and middle school math students led to success for all. Explore the idea of implementing a peer tutoring program in your classroom or school building as an effective differentiation, learning, and prevention strategy, with tips and materials from the presenter.

Sara Langford

Liberty Public Schools, Liberty, Missouri

*Farragut Square (Hyatt) capacity: 72***439****Exploring Data Found in Mathematics Using Fathom™ and TI-Nspire™****(6–12, Teacher of Teachers) Session**

Numbers, geometrical shapes, and functions can be considered objects in infinite data sets. Learn ways to use data analysis techniques as a regular part of mathematics lessons to improve the understanding of algebraic and geometric concepts. Fathom and TI-Nspire are the technologies of choice for such investigations.

William Finzer

Key Curriculum Press, Emeryville, California

Auditorium (Renaissance) capacity: 282**440****What I Need to Know Is ...****(9–12) Session**

Successful early-career and experienced teachers will answer your questions and provide insights into all aspects of being a high school math teacher. Ask questions at the session or ahead of time at www.nctm.org/facebook.

Marriane Razzino

Thomas Jefferson High School, Fairfax, Virginia

Sareeta Carter

Benjamin Banneker Academic High School, Washington, D.C.

Julia Zurkovsky

National Council of Teachers of Mathematics, Reston, Virginia

150 B (Convention Center) capacity: 248**441****Mathematizing African History, Part 2****(9–12) Session****Benjamin Banneker Association presentation**

Many teachers have difficulty in making cultural connections with their students of color and keeping up with the standards. The presenter will illustrate multiday lessons that connect to the students' experiences, culture, and history. The idea is to use the standards as the floor of learning instead of the ceiling of knowledge.

Kwame Anthony Scott

Benjamin Banneker Association, Oak Park, Illinois

*207 B (Convention Center) capacity: 426***442****Recursion for All: Using Different Methods to Learn Recursion****(9–12) Session**

This session will discuss how manipulatives and graphing technology can be used to help all students develop an understanding of recursion. The relationship between recursion and exponential functions will be explored. Connections to Fibonacci numbers and Pascal's triangle will also be made.

Benjamin J. Sinwell

Northwood High School, Silver Spring, Maryland

*Wilson/Roosevelt (Hyatt) capacity: 88***443****Minds-On Tasks to Build Understanding of Functions in Multiple Representations****(9–12, Higher Education, Teacher of Teachers) Session**

Function understanding is a primary outcome of school math and a key to success in college math. Students need to move fluently among graphs, tables, and equations. To build this depth of understanding, students must engage in rich tasks. In this session you will engage your mind and leave with tasks to engage your students. Bring your calculator!

John Donovan

Plymouth State University, Plymouth, New Hampshire

Renaissance West B (Renaissance) capacity: 162

444**Animations of Classroom Episodes: Visualizing Opportunities to Engage a Class in Proving****(9–12, Higher Education, Teacher of Teachers) Research Session**

Participants will see an animation in which a teacher leads students' work on an open problem about quadrilaterals. The presenter will use the participants' reactions to the animation, and those of past research study groups, to outline how the teaching of geometry can incorporate more attention to reasoning and proof through work on problems.

Pat Herbst

University of Michigan, Ann Arbor, Michigan

*Meeting Room 12/13/14 (Renaissance) capacity: 90***445****Making Complete Sense of the NFL Passer Rating****(9–12, Teacher of Teachers) Session**

This session demonstrates how the NFL passer rating was developed using algebra so that students can better understand and compute ratings. Including a historical perspective and defying the media myth that the formula is too complicated, this presentation provides an engaging classroom topic that promotes curiosity and creativity in mathematics.

James Patrick Messenger

Anne Arundel Community College, Arnold, Maryland

*209 A (Convention Center) capacity: 107***446****Six Ways to Amaze: Using Dynamic Images in Your Teaching****(9–12, Teacher of Teachers) Session**

This session will show how to use Google-Earth/Flash-Earth, to analyze structures; Java/Flash applets on the Web, to inspire; YouTube videos, to add some surprises; movie clips, when introducing 3D topics; dynamic software, to explore the actual math; and statistical software, to have fun with real data off the Web.

Douglas Butler

iCT Training Centre, Oundle, Peterborough, Cambridgeshire, United Kingdom

*Grand Ballroom South (Renaissance) capacity: 430***447****Preparing Preservice Mathematics Teachers to Teach Statistics****(Teacher of Teachers) Session**

How do you prepare mathematics teachers to teach data analysis and probability? Explore a framework for teaching preservice mathematics teachers to teach statistical ideas. You will learn about activities from an integrated math and statistics teaching methods course.

Kady Schreiber

Utah State University, Logan, Utah

Brynja Kohler

Utah State University, Logan, Utah

*Renwick/Bulfinch (Hyatt) capacity: 72***Come, Connect, Communicate****Inclusion and SPED**

Meet with educators who share your interests to discuss how to improve teaching and learning related to inclusion and special education. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

*Room 304 C (Convention Center)***Come, Connect, Communicate****Grades 9–12**

Meet with educators who share your interests to discuss how to improve teaching and learning in grades 9–12. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

10:00 a.m.–11:00 a.m.

Exhibitor Workshop 29**Kendall Hunt Publishing Company****Reaching Full Potential in Your Gifted Math Students with M3**

Help your students assume the role of mathematicians as they develop critical- and creative-thinking skills in solving real problems. Project M3: Mentoring Mathematical Minds program is challenging and enjoyable.

*Room 143 A (Convention Center)***Exhibitor Workshop 30****Pearson****Math for the Twenty-first Century**

Explore how digital solutions for education are bringing mathematics instruction into the twenty-first century by providing a way for digital natives to connect with math without having to “unplug.” (PreK–Grade 12)

Room 143 B (Convention Center)

10:00 a.m.–11:00 a.m.

Exhibitor Workshop 31

HP Calculators

Algebra for All in the Middle Grades

HP Calculators has a new solution for middle grades math. Come get hands-on experience with the easy-to-use HP 39GS graphing calculator and the StreamSmart data-streamer! Motivating students to learn algebra has never been easier!

Room 143 C (Convention Center)

Exhibitor Workshop 32

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Find out how Hands-On-Equations® enables students to represent and solve word problems using game pieces. Examples of number, age, coin, and distance problems will be presented. (Grades 5-9)

Room 144 A (Convention Center)



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10:30 a.m.–12:00 noon

448

Building a Bridge to Better Math, with a Little Help from Pythagoras

(General Interest) Gallery Workshop

Educators from Salvadori Center, using their inclusive, project-based pedagogy, will present how building a truss bridge with index cards can improve math instruction. This hands-on lesson can assess not only fractions and decimals, measurement, the Pythagorean theorem, radicals, and geometry, but also the efficacy of triangle patterns.

Hiro Komatsubara

Salvadori Center, New York, New York

Pat Shuford

Salvadori Center, New York, New York

147 A (Convention Center) capacity: 243



449

Differentiating Mathematics for All Learners

(General Interest) Gallery Workshop

Learn and apply strategies for differentiating mathematics curriculum for all learners. Attendees will develop their own differentiated activities based on these strategies, including developing content vocabulary, leveling questions, and tiering assignments. Discuss how to implement effective flexible grouping through formative assessments.

Karie Gladis

Teacher Created Materials, Huntington Beach, California

Grand Ballroom North (Renaissance) capacity: 298

450

Using Picture Book and Manipulatives for Data Gathering and Algebraic Concepts

(PreK–2) Gallery Workshop

During the presentation, the participants will use picture books and manipulatives to communicate or represent relationships involving data collection and algebraic concepts.

Catheline Jones

Lucas Crossing–Normandy School District, Saint Louis, Missouri

Jacqueline Austin-Butler

Ford Elementary Community Education Center, Saint Louis, Missouri

Karen Darris

Gateway Elementary Math, Science, and Technology Magnet School, Saint Louis, Missouri

146 B (Convention Center) capacity: 340

FRIDAY

451**Subtraction Strategies That Work****(PreK–2) Gallery Workshop**

Learn about engaging models and activities that can help *all* children make sense of comparative subtraction, take-away subtraction, and missing addends. Concrete to representational to abstract, these models are great for Response to Intervention and strategic intervention. Ready-to-use materials will be provided.

Christine Losq

CLEA, Inc., Palo Alto, California

204 A/B (Convention Center) capacity: 227**452****Math Activities for the Special Student in the Regular Classroom****(PreK–5) Gallery Workshop**

Are you having difficulty teaching mathematics to your students with special needs? Using the NCTM *Math Computation Standard*, you will be actively involved with intervention techniques that include games and activities that develop concepts. You will have a chance to practice these concepts and apply them in problem-solving ways.

Shirley Helene Bradsby

Jefferson County Public Schools, Lakewood, Colorado

103 A (Convention Center) capacity: 232**NCTM 453****Classroom Management and Motivation through Mathematics****(PreK–5) Gallery Workshop**

Management and motivation strategies can be integrated into the learning and teaching process to create a classroom structured around engaging math activities. This fosters learning, invites students to participate, and creates a classroom environment that is manageable for you. Learn strategies to invite and support students as they learn math.

Kim Englert

Jefferson County Public Schools, Louisville, Kentucky

Jennifer M. Bay-Williams

University of Louisville, Louisville, Kentucky

Elizabeth Todd Brown

University of Louisville, Louisville, Kentucky

150 A (Convention Center) capacity: 226**454****Every Child Counts, and Every Child Can Count! Strategies from Singapore Classrooms****(PreK–5) Gallery Workshop**

Participants will learn strategies, based on an analysis of teaching methods and textbook materials used in Singapore, that allow average and struggling students reach at least an adequate competence level in mathematics. See for yourself how every student can achieve. There is no magic. It is all in the strategies.

Ban-Har Yeap

Nanyang Technological University, Singapore, Singapore, Singapore

202 A (Convention Center) capacity: 368**455****Let's Read Math, Inside and Outside the Classroom****(PreK–5, Teacher of Teachers) Gallery Workshop**

Rutgers Center for Family Involvement is doing Let's Read Math teacher training. See and hear how the speaker integrates reading with math—in classrooms, at family nights, in after-school centers, day camps, libraries and other out-of-school settings. Discuss ways to forge home-school-community partnerships. Receive sample materials.

Claire B. Passantino

Let's Read Math, Yardley, Pennsylvania

Congressional Hall B (Renaissance) capacity: 132**456****Two Primary Ways Teachers Can Help Students Learn How to Make Sense of Word Problems****(3–5) Gallery Workshop**

Participants will use manipulatives to solve word problems involving the four basic operations. You will learn how using manipulatives and requiring students to justify their solutions can help students learn how to make sense of word problems.

Karen Heinz

Rowan University, Glassboro, New Jersey

101 (Convention Center) capacity: 170

FRIDAY

**Pick up your copy of the
NCTM Daily News for
conference highlights
and program changes.**

457

What's Rational about Fractions?**(3–5) Gallery Workshop**

Come explore some activities to help your students understand fractions better. The activities will use children's literature, manipulatives, and games to supplement students' understanding of fractions. We'll also investigate how these activities can be differentiated to accommodate the different learning styles in your classroom.

Theresa Suetterlein

Fairfax County Public Schools, Springfield, Virginia

201 (Convention Center) capacity: 326

458

Plugging into the MATRIX: Enhancing Mathematical Reasoning Through Games**(3–5) Gallery Workshop**

This session provides a description of an innovative pilot program designed to improve the mathematics achievement of students. Participants will engage in mathematical games which help in the development of students' problem solving, deductive reasoning, and strategy development skills.

Crystal Hill

Indiana University–Purdue University Indianapolis, Indianapolis, Indiana

Daniella Cook

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Jan Yow

University of South Carolina—Columbia, Columbia, South Carolina

Independence H/I (Hyatt) capacity: 95

459

Math × Literature = Success Squared**(3–5, Teacher of Teachers) Gallery Workshop**

Success in math begins with children being actively engaged, and literature can provide the necessary spark. Experience the math-and-literature connection by participating in simple, motivating, hands-on activities that make real world connections. Handouts will be provided.

Sharon Huber

Chesapeake Public Schools, Chesapeake, Virginia

Carolyn Belson

Chesapeake Public Schools, Chesapeake, Virginia

144 B (Convention Center) capacity: 96

460

Quilts, Quilts, and More Quilts**(3–8) Gallery Workshop**

Explore hands-on activities using quilts to learn about multiplication, division, fractions, geometry, and measurement. Literature and social studies connections will also be shared.

Janet H. Caldwell

Rowan University, Glassboro, New Jersey

151 A (Convention Center) capacity: 291

461

Life Is Too Short for Long Division**(3–8) Gallery Workshop**

Students struggle with division because they have not built a conceptual understanding of the operation. Explore inquiry-based strategies that help students attach meaning to division so that *all* students can be successful. You will work with dividing whole numbers, fractions, and decimals.

Linda M. Gojak

John Carroll University, University Heights, Ohio

206 (Convention Center) capacity: 323

462

Seeing a Whole New Side of Math!**(3–8) Gallery Workshop**

Learn a variety of activities to help integrate students with a sensory loss in learning foundational concepts within the areas of geometry, measurement, and fractions. You will also experience how these activities and ideas can enhance the general curriculum for all students.

Theresa Court

Arizona State Schools for the Deaf and the Blind, Tucson, Arizona

Independence D/E (Hyatt) capacity: 95

463

Mathematical Moon Madness**(6–8) Gallery Workshop**

This NASA program will address the concept of area by having participants calculate areas of two different lunar habitat designs.

Sonya Williams

NASA, Greenbelt, Maryland

102 B (Convention Center) capacity: 204

464**Exploring Mathematics Using the Underground Railroad****(6–8) Gallery Workshop****Benjamin Banneker Association presentation**

This workshop will explore symmetry, fractions, shapes, patterns, problem solving, and other mathematical concepts using quilt blocks associated with the Underground Railroad. Graphing and distance will be explored using escape routes. Participants will create quilts and design escape routes.

Edna L. Holbrook

Jackson State University, Jackson, Mississippi

Alicia K. Jefferson

Jackson State University, Jackson, Mississippi

Grand Ballroom Central (Renaissance) capacity: 337

465**Multiple Access to Challenging Problems for All Students****(6–8) Gallery Workshop**

Explore a strategy that motivates students to put greater effort into solving challenging problems. Experience the benefit of providing students with problem-specific, written hints where the degree of support students need is determined by the students. Take copies of problems, with hints, that your students will find irresistible!

Jenny K. Tsankova

Roger Williams University, Bristol, Rhode Island

Meeting Room 8/9 (Renaissance) capacity: 60

466**Where Has All the Feedback Gone?****(6–8, Teacher of Teachers) Gallery Workshop**

Teachers can use the TI-Navigator as a tool for formative assessment in their classrooms to provide immediate feedback that can improve classroom discussions and *all* students' achievement. Middle school algebra topics will be explored using TI-Navigator for instruction and formative assessment. A classroom video will be shared.

Judith Olson

University of Hawaii, Honolulu, Hawaii

Michael Gilbert

University of Hawaii, Honolulu, Hawaii

Melanie Ishihara

University of Hawaii, Honolulu, Hawaii

159 A/B (Convention Center) capacity: 109

467**Raising Expectations: Beyond Measures of Central Tendency in Statistics and Data Analysis****(6–12) Gallery Workshop**

You will learn about data analysis techniques beyond calculations of mean, median, and mode, revolving around various ways to describe and explore center, spread, and location in one-variable data sets, and direction, strength, and shape in two-variable data sets. Expand your own perspectives and generate ideas for helping your students!

Roger Day

McGraw-Hill K–12 Mathematics, Pontiac, Illinois

145 A (Convention Center) capacity: 244

468**Motivational, Hands-On Materials from Everyday Household Items****(6–12) Gallery Workshop**

Use readily available materials to help develop abstract mathematical concepts. Manipulatives do not have to be commercially produced. This workshop will show how simple materials, such as straws, paper clips, wax paper, linguini, and tape measures, can be used to motivate students and help develop mathematical concepts.

Jon DeLise

Math for America, New York, New York; City College of New York, New York, New York

140 B (Convention Center) capacity: 125

469**Fun with Functions!****(6–12, Teacher of Teachers) Gallery Workshop**

Come model functions using an active, hands-on approach! Represent real-world functions with words, symbols, tables, and graphs. Examine how these activities can be used to differentiate instruction in diverse classrooms and as assessment tools. Classroom-ready materials will be provided.

Teri Willard

Central Washington University, Ellensburg, Washington

Mandy McDaniel

Boise State University, Boise, Idaho

Constitution A (Hyatt) capacity: 180

NCTM 470

Engaging in Algebra: Understanding and Teaching Key Content for High School–New Teacher Workshop**(9–12) Gallery Workshop**

How can you help students build understanding, learn skills, and use their algebra toolbox? Increase your understanding of important algebra topics and learn to facilitate skills and understanding of core concepts with your students. Get involved, learn, and enjoy! Content ranges from prealgebra through Algebra 2.

Sarah DeLeeuw

National Council of Teachers of Mathematics, Reston, Virginia

Julia Zurkovsky

National Council of Teachers of Mathematics, Reston, Virginia

146 B (Convention Center) capacity: 340

471

Bridging the Gap between Standards and the Teaching of Data Analysis and Probability in Grades 9–12**(9–12) Gallery Workshop**

This session will examine the American Statistical Association's Guidelines for Assessment and Instruction in Statistics Education (GAISE) and engage participants in activities developed to support the teaching and learning of data analysis, probability, and statistics concepts in high school.

Daren Starnes

Lawrenceville School, Lawrenceville, New Jersey

207 A (Convention Center) capacity: 339

472

Experimenting with Exponential Functions**(9–12) Gallery Workshop**

Explore exponential functions with real-life applications. Participants will be actively engaged in technology-based, hands-on activities that model exponential growth and decay functions. These technology-based activities will make use of M&M's, medicine, and the spread of bacteria. Participants will leave with exciting classroom activities.

Ann Polson

Little Rock Christian Academy, Little Rock, Arkansas

Karyn Brown

Little Rock Central High School, Little Rock, Arkansas

208 A/B (Convention Center) capacity: 95

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606

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Greg Tang

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Stuart J. Murphy

Friday

9:00–10:30
Stuart J. Murphy

3:30–4:30
Stuart J. Murphy



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473

Objects in Your Rear View Mirror Are Closer than They Appear, ...

(9–12) Gallery Workshop

... and objects horizontal to the ground are larger! “Drive” home important precalculus skills and connections with contexts for rational and trig functions relevant to the young drivers in your classroom. How far away is that car? How long are the “skip lines” on Route 95? Where do I turn the wheel to make it into that parking spot?

Ralph Steven Pantozzi

Mount Olive Public Schools, Flanders, New Jersey

Constitution C/D/E (Hyatt) capacity: 200

474

Exploring the Meaning and Measurement of Variability

(9–12, Higher Education, Teacher of Teachers) Gallery Workshop

What is variability? How can it be measured? Develop a deeper understanding of the meaning behind statistical formulas by exploring the measurement of variability from two different viewpoints. The results of this exploration may even surprise some statisticians.

Michael Perkowski

University of Missouri—Columbia, Columbia, Missouri

154 A/B (Convention Center) capacity: 162

475

Invisible Culture: Locating Values in Mathematics Education

(Teacher of Teachers) Gallery Workshop

Is mathematics neutral? What other lessons, aside from math, are embedded in what we provide students? What values are implied and transmitted by the problems we choose and the texts we share? We’ll analyze textbooks, trade books, and standardized tests and discuss whether these match the values we espouse. A detailed handout will be provided.

Anita Bright

George Mason University, Fairfax, Virginia

Independence B/C (Hyatt) capacity: 95

476

Equal Is Easy, Equity Takes Effort

(General Interest) Session

This session will focus on examining issues of equity including culture, gender, and language and mathematics. Participants will engage in discussions and activities that explore the differences between what is “equal” and what is “equitable”; and consider the issue of how to provide equitable schooling for ethnic and linguistic minorities.

Carolyn M. Moore

TODOS: Mathematics for ALL; SRA McGraw-Hill, Columbus, Ohio

209 B/C (Convention Center) capacity: 213

477



Never Could Have Made It: A Tribute to Iris Carl

Iris M. Carl Equity Address (General Interest) Session

Iris Carl had a tremendous impact on the lives of students, parents, teachers, college educators, school administrators, and politicians. Her vision and ideals

helped to shape NCTM and math education in the United States for the better. Carl’s leadership brought needed change to math education and provides an example for all those who follow her.

The annual Iris M. Carl Equity Address was established to underscore the crucial need for collective action in advancing understanding of equality and equity in education. Inaugurated in 2008, the address commemorates Iris Carl’s lifelong commitment to educational equity and celebrates the vision and inspiration that she provided for achieving the goal of “more and better mathematics for all children.” Each year a distinguished scholar who is recognized for leadership and action related to equality in mathematics education is invited to deliver this featured address.

Lee V. Stiff

Past President, National Council of Teachers of Mathematics; North Carolina State University, Raleigh, North Carolina

Ballroom B (Convention Center) capacity: 1440



478

Learning Progressions in Grades K–8 Mathematics: A Crucial Strategy for Effective Formative Assessment and Instruction

(General Interest) Session

Learning progressions—how mathematical knowledge and skills develop—have potential to help practitioners make research-based instructional decisions. Speakers will share examples of learning progression models in development, and discuss how they may promote assessment and instruction that effectively advance learning and close skill gaps.

Jere Confrey

North Carolina State University, Raleigh, North Carolina

Marge Petit

Marge Petit Consulting, North Fayston, Vermont

Ballroom C (Convention Center) capacity: 1442

479

Helping Your School Succeed in Mathematics

(General Interest) Session

Schools can help all students do well in mathematics. Doing well is more than just being able to compute. Research-based strategies for improving students' achievement will be presented. Interactive technology and primary exemplars will be used to show how fostering mathematical thinking can lead to traditional measures of success.

Judith E. Jacobs

California State Polytechnic University, Pomona, Pomona, California

Renaissance West A (Renaissance) capacity: 162

480

Pick, Pack, and Play: Math Bags

(PreK–2) Session

English- and Spanish-speaking parents often feel unprepared when helping their children with math. This session will provide teachers with take-home math activities that parents can use. Additionally, information on how to establish a Math at Home program for primary school students will be presented. Handouts will be in both English and Spanish.

Carole Swisdak

Prince George's Public Schools, Upper Marlboro, Maryland

152 B (Convention Center) capacity: 262

481

One Size Does Not Fit All! Differentiation at Its Best

(PreK–5) Session

Recognized for closing the achievement gap, a Title I school's math coach and third-grade teacher will show how differentiation can vary at every grade level and in every math class by using “out of the box” strategies, goal-setting priorities, and a commitment to data analysis to affect students' achievement in historically underachieving groups.

Frieda Bingham

Claude A. Taylor Elementary School, Cayce, South Carolina

Floyd Dinkins

Claude A. Taylor Elementary School, Cayce, South Carolina

140 A (Convention Center) capacity: 154

482

Adventures in Elementary School Math Coaching

(PreK–5) Session

There is never a dull moment in an elementary school classroom. Math coaches have the opportunity to support classroom teachers on their journey. Empowering teachers to reach their potential as math teachers is an exciting adventure! Share ideas about inspiring teacher leaders, building relationships, and conquering our biggest obstacles.

Traci Ann Ostrick

Everett Public Schools, Everett, Washington

144 C (Convention Center) capacity: 156

483

First Things First! Helping Struggling Students Gain a Profound Understanding of Number and Place Value

(PreK–5) Session

Meeting the needs of all students is a challenge—especially those needing intervention. This session focuses on the number and place-value concepts students need most, emphasizing (1) ten-frames and base-ten models and (2) connections among the structures, relationships, and magnitudes in small and large number sets.

Peggy Akin

Building Math Power, Phoenix, Arizona

Kimberly Rimbey

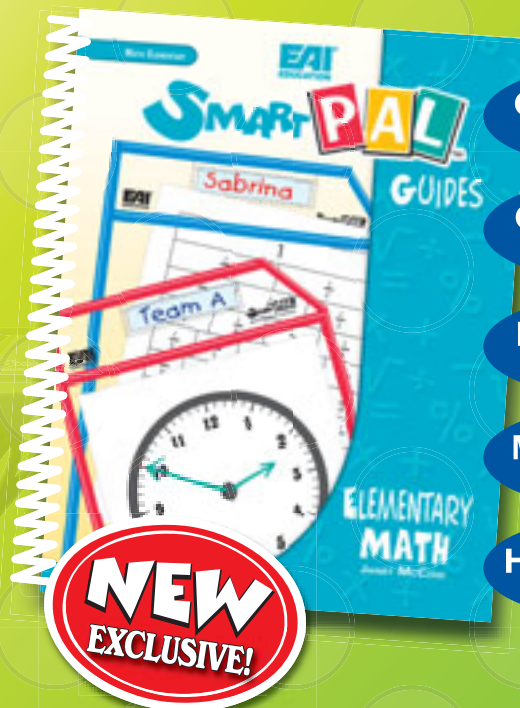
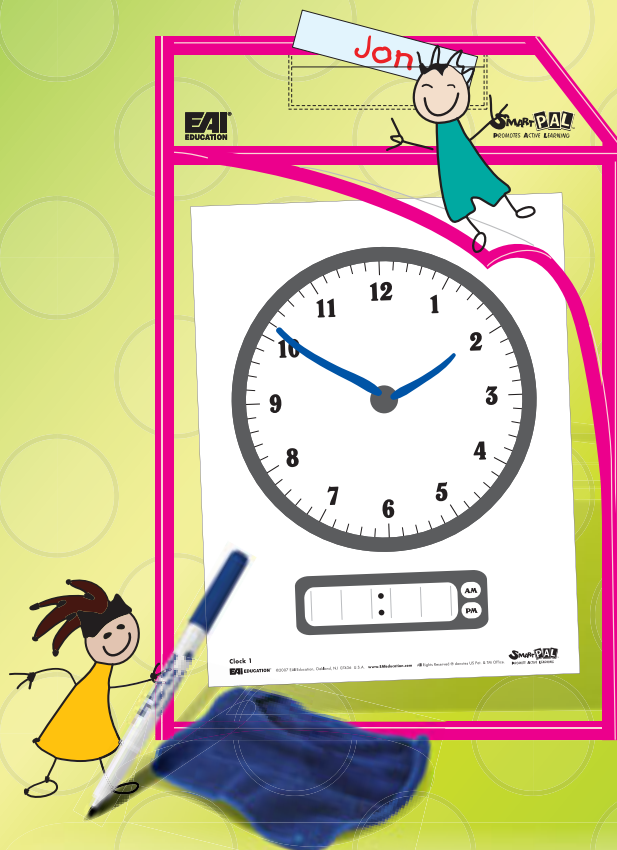
Rodel Charitable Foundation of Arizona, Phoenix, Arizona

202 B (Convention Center) capacity: 418



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484**Safety Nets in the Grades K–2 Classroom: Jump-Starting Numeracy in an Urban District****(PreK–5, Higher Education, Teacher of Teachers) Session**

The session explores how a low-performing urban district included classroom-based safety-nets in the grades K–2 numeracy curriculum. The session addresses (a) establishing grade level targets, (b) assessing targets with Add+Vantage MR (a Math Recovery product), and then (c) mapping to curriculum materials.

Francine Roy

Fall River Public Schools, Fall River, Massachusetts

Nancy Magoni

Fall River Public Schools, Fall River, Massachusetts

149 A/B (Convention Center) capacity: 174**485****A Teacher-Created, Six-Week Algebra Unit for Fifth Grade****(3–5) Session**

Participants will engage in numerous lessons, games, and activities drawn from an Introduction to Algebra unit written by the speaker. Attention will be paid to the language of algebra, as well as an introduction to Algeblocks. Issues of equity will be addressed, since the unit is currently being used by five different elementary schools.

Laura A. Sgroi

Pound Ridge Elementary School, Pound Ridge, New York

150 B (Convention Center) capacity: 248**486****Response to Intervention and Tier Two Interventions for Algebra: Collaboration between General and Special Education****(3–5) Session**

Teachers will learn about strategies and resources for implementing Tier Two interventions for algebra to meet students' needs. Case studies will illustrate interventions and strategies for monitoring students' progress. Resources for families will also be presented. Teachers who have students with algebra needs are encouraged to attend.

Bridget Lynne Kelley

Western Washington University, Bellingham, Washington

151 B (Convention Center) capacity: 284**487****Third-Grade Decimals: A Japanese-Style Research Lesson****(3–5) Session**

How do you teach decimals in third grade in a way that is engaging, challenging, and accessible to all students? Can you teach decimals before fractions? This session describes the presenters' lesson study on decimals, which culminated in a public research lesson.

Thomas McDougal

Williams Multiplex Elementary School, Chicago, Illinois

Tracey Carter

Chicago Lesson Study Group, Chicago, Illinois

Laura Kaplan

Chicago Lesson Study Group, Chicago, Illinois

156 (Convention Center) capacity: 156**488****Rational Numbers Include More than Part-Whole: Knowing Multiple Meanings Should be Your Goal****(3–8) Session**

Providing students with a foundation for understanding various rational-number meanings early on is important for their future success in mathematics. Come explore the five meanings of rational numbers and learn strategies to help students develop a better understanding of each.

Jennifer M. Tobias

University of Central Florida, Orlando, Florida

146 C (Convention Center) capacity: 414**489****Picture This: Pictures = 1000 Words****(3–8) Session**

Visualization can provide pathways to generalization, effectively connecting geometry to algebra. This, in turn, becomes a powerful tool that allows access to ideas that are the foundation of mathematical thinking.

Mary Behr Altieri

Macmillan/McGraw-Hill, Putnam Valley, New York

207 B (Convention Center) capacity: 426

**490**

The Power of Problem Strings and Visual Models

(3–8) Session

All students can be successful with more mathematics when you harness the power of problem strings and visual models. Carefully designed strings of problems modeled with open number lines, open arrays, and ratio tables provide students with multiple access points, models of thinking, and models for thinking. Several examples will be presented.

Pamela Weber Harris

Consultant, Kyle, Texas

209 A (Convention Center) capacity: 107**491**

Let's Talk Math: Engaging All Learners in Meaningful Mathematical Discourse

(3–8) Session

Teachers who participated in NCTM's 2007–08 lesson study will share classroom practices that engage all learners in meaningful math discourse. Rich mathematical tasks will be provided that encourage justifying, reasoning, and proving through multiple methods of engagement, representations, expressions, and assessments.

Jennifer M. Suh

George Mason University, Fairfax, Virginia

Nina Sudnick

Athens City Schools, Athens City, Ohio

Jean Gibson

Spring Hill Middle School, Bentonville, Arkansas

Jean Ann Claugus

Cambridge City Schools, Cambridge, Ohio

Sandra McGrath

Shelburne Middle School, Staunton, Virginia

Christine Renee Floyd

Hot Springs School, Hot Springs, Montana

Angela Stevens

Fairfax County Public Schools, Fairfax, Virginia

Sally Tappert

Saint Stephen's Episcopal Day School, Coconut Grove, Florida

*158 A/B (Convention Center) capacity: 137***492**

Fostering a Problem-Solving Approach as a Chicago Math and Science Initiative Citywide Specialist

(3–8, Teacher of Teachers) Session

Citywide specialists from the Chicago Public Schools will present strategies for implementing and fostering a problem-solving approach to mathematics instruction in an urban school district. They will highlight successes collaborating with teachers concerning individual coaching, grade-level planning, and schoolwide professional development.

Andrew Robert Friesema

Chicago Public Schools, Office of Mathematics and Science, Chicago, Illinois

Danusia Gerlach

Chicago Public Schools, Office of Mathematics and Science, Chicago, Illinois

*102 A (Convention Center) capacity: 144***493**

A Journey through the Awesome World of Mathematics

(3–12) Session

Join the speaker on an eclectic mathematical tour. You'll visit powerful ideas, amazing equations, celebrated problems, creative minds, and piquant anecdotes. The speaker will share the delight and wonder of mathematics by drawing on a multinational education, a career in the arts and sciences, and experience with live theatre, video, and film.

Monica M. Neagoy

Monica Neagoy Mathematics Consulting Services, Arlington, Virginia

*Independence A (Hyatt) capacity: 800***494**

Geometry and Algebra Make Good Bedfellows! Explorations of Area on Geoboards

(3–12) Session

Proposed activities will help engage students in explorations, establishing deeper understanding of geometry/measurement concept of area and will demonstrate algebraic power by leading students to discovery of simple formula for area (Pick's theorem).

Olga Kosheleva

University of Texas at El Paso, El Paso, Texas

Renaissance West B (Renaissance) capacity: 162

FRIDAY

**Visit the NCTM
Member Showcase to pick
up activities, lessons, and
sample journals to use in
the classroom.**

495

Mathematics and Engineering: Design Projects to Engage Middle School Students

(6–8) Session

Teachers will be introduced to design projects that incorporate the ideas of engineering with mathematics content, including consumer math, measurement, geometry, and statistics. Participants will be given the opportunity to work in teams to create one of the designs in the session.

Diane Leighty

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

103 B (Convention Center) capacity: 164

NCTM 496

What I Need to Know Is ...

(6–8) Session

Successful early-career and experienced middle grades teachers will answer your questions and provide insights into all aspects of being a math teacher in the middle grades. Ask questions at the session or ahead of time at www.nctm.org/facebook.

Gail Englert

Ruffner Academy, Norfolk, Virginia

Leslie Johnson

Baltimore County Public Schools, Towson, Maryland

Sarah Klimek

National Council of Teachers of Mathematics, Reston, Virginia

147 B (Convention Center) capacity: 255

497

Recreational Mathematics: A Tribute to Martin Gardner

(6–8) Session

How do we get students to investigate mathematical concepts, enjoy the challenge of problem solving, and discover the wonder of that *aha!* moment? By incorporating mathematical games, puzzles, and other recreational activities into the math program, you can lead students to the wonder and beauty of mathematics. A handout will be provided.

Julian D'Angela

Retired, Ancaster, Ontario, Canada

Auditorium (Renaissance) capacity: 282

498

Designing Situated, Performance-Based Mathematics Assessments

(6–8) Session

Participants will become familiar with design principles for creating, and begin to design, situated, performance-based assessments. These assessments, if well developed, will engage students in a meaningful, authentic assessment of content knowledge.

James A. Telese

University of Texas at Brownsville, Brownsville, Texas

Wilson/Roosevelt (Hyatt) capacity: 88

499

Assessment and Mathematical Representation: Providing ELLs with Opportunities to Make Sense of Decimals and Fractions

(6–8) Research Session

This presentation will report the findings of a study on how sixth-grade English language learners (ELLs) used multiple representations to make sense of fractions and decimals. Video vignettes of ELLs solving challenging problems will be shared. Special attention will be given to the role of language in supporting the mathematical learning.

Laura Burr

University of New Mexico, Albuquerque, New Mexico

Richard Kitchen

University of New Mexico, Albuquerque, New Mexico

Renwick/Bulfinch (Hyatt) capacity: 72

500

Adapting Middle Grade Curricular Materials to Ensure Your Students' Learning and Alignment with State Standards

(6–8, Higher Education, Teacher of Teachers) Session

How teachers use curriculum materials influences the nature of teaching and learning. On the basis of our research and work with teachers, explore ways middle grade teachers can adapt curricular materials to meet their students' learning needs, align with state grade-level expectations, and achieve goals intended in the materials.

Amy Roth McDuffie

Washington State University Tri-Cities, Richland, Washington

M. Lynn Breyfogle

Bucknell University, Lewisburg, Pennsylvania

Kay A. Wohlhuter

University of Minnesota—Duluth, Duluth, Minnesota

Meeting Room 12/13/14 (Renaissance) capacity: 90



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**501****Partnership to Improve Education****(6–8, Higher Education, Teacher of Teachers) Session**

This presentation will describe the collaborative effort between Charleston County School District (CCSD) and the College of Charleston (CofC). CCSD identified low-performing middle schools, and CofC faculty wrote a grant to address the need for improvement in these schools. A tutoring program, summer camp, and teacher training will be described.

Debby W. Jeter

College of Charleston, Charleston, South Carolina

Hope Florence

College of Charleston, Charleston, South Carolina

Sofia Agrest

College of Charleston, Charleston, South Carolina

*Farragut Square (Hyatt) capacity: 72***502****Preparing Mathematics Teachers in the Twenty-first Century****(6–8, Higher Education, Teacher of Teachers) Research Session**

MT21 is a cross-national study of the preparation of middle school mathematics teachers. How best to prepare middle school teachers is more complex than might be expected. The solution of having future U.S. teachers of middle school take more mathematics appears to be only part of the answer.

William H. Schmidt

Michigan State University, East Lansing, Michigan

*Ballroom A (Convention Center) capacity: 1442***503****Developing Algebraic Thinking through Multiple Representations: When a Symbolic Answer Is Not Enough****(6–12) Session**

Algebra is often viewed as a set of rules for symbolic manipulation. Development of algebraic reasoning skills involves more than manipulating symbols. Participants will explore relationships between graphic, symbolic, and numeric representations for algebraic problems including generalizing patterns, problem solving, and interpreting graphs.

Janet Andreasen

University of Central Florida, Orlando, Florida

Precious Cristwell

University of Central Florida, Orlando, Florida

Didem Akyuz

University of Central Florida, Orlando, Florida

*Independence F/G (Hyatt) capacity: 120***504****Demystifying Differentiated Assessment: Using Formative and Summative Assessments to Transform Your Classroom****(6–12) Session**

In search of strategies to integrate assessment better into the teaching and learning process? Look no further! Easy-to-use templates and examples will be provided that address the diverse needs of students regarding skill level, learning style, and personal interest. A deeper appreciation of formative and summative assessments is guaranteed!

Carrie Kizuka

Twin Valley High School, Elverson, Pennsylvania

*Lafayette Park (Hyatt) capacity: 78***505****Math, Literature, Movies, TV, and More****(6–12) Session**

Teacher-created math activities involving literature and other forms of media will be presented. Specific examples of how to connect these activities to the secondary school math curriculum strands will be discussed. Participants will leave with handouts, ideas, and more.

Elaine B. Hofstetter

State University of New York—College at New Paltz, New Paltz, New York

*146 A (Convention Center) capacity: 423***506****Solving Your Algebra Problems through Problem Solving****(6–12, Teacher of Teachers) Session**

This session allows participants to discover a classroom that allows all students to use real-world applications to acquire algebraic concepts. The focus will be on how all teachers can incorporate twenty-first-century skills in a classroom that provides opportunities to learn by doing.

Cassie Faith Martin

Green River Regional Educational Cooperative, Bowling Green, Kentucky

*Cabin John/Arlington (Hyatt) capacity: 88***507****Using PDAs, iPhones, iPods, GPSs, and More to Enhance Your Mathematics Curriculum****(6–12, Teacher of Teachers) Session**

The presenter will showcase lessons that involve the use of PDAs, iPhones, and iPods for videocasting; GPSs for geocaching; and other technologies. Participants will see how easily technology can be infused into their teaching.

Karen S. Norwood

Benjamin Banneker Association, Columbia, Maryland

Grand Ballroom South (Renaissance) capacity: 430

508**The Catenary: Explore, Model, and Write!****(9–12) Session**

Communication and modeling are the focus of this integrative project in which Sketchpad, Excel, writing, and mathematics coalesce in a fascinating exploration. Consider a downloaded image. Is it a catenary? A parabola? Something else? See how students determined a model for an image, gave data-based justification, and formally composed their work.

Janice L. Krouse

Illinois Mathematics and Science Academy, Aurora, Illinois

145 B (Convention Center) capacity: 278**509****Teaching Precalculus and Calculus 1 Using The Geometer's Sketchpad®****(9–12) Session**

This session will present Geometer's Sketchpad sketches that will illustrate concepts from precalculus and Calculus 1. The examples will allow students to learn the concepts visually before abstraction occurs. Each sketch will be demonstrated and instructions for their creations will be shared with all participants.

Todd O. Moyer

Towson University, Towson, Maryland

Congressional Hall A (Renaissance) capacity: 198**510****Recursion and Iteration: A Powerful Way to Describe Sequential Change****(9–12) Session**

The topics of sequences and series can be enriched and extended using recursion methods. Explore sequences and recursion to model sequential change using the TI-83 and TI-84 calculators.

Roberta KossTeachers Teaching with Technology (T³), San Rafael, California**Constitution B (Hyatt) capacity: 196****511****Encouraging Algebra Learning by Using Magic****(9–12) Session**

Magic tricks that are explained by using algebra will be presented. First the trick will be presented with cards, number cubes, calendars, or mental patterns. Then the trick will be explained. Finally the trick will be explained again, showing the algebra that the teacher can share with their students.

John Gregory

University of Florida, Gainesville, Florida

Renaissance East (Renaissance) capacity: 320**512****Investigating Secondary School Students' Perception of Statistics****(9–12, Higher Education) Research Session**

Although more students are taking courses in statistics before leaving high school, the research base on teaching and learning statistics at the high school level has not accumulated as rapidly. This investigation examines how secondary school students' approaches to learning mathematics relate to how they assign meaning to statistics.

Kimberly Gardner

Clayton State University, Morrow, Georgia

Cassandra Lee

DeKalb County Schools, Decatur, Georgia

Meeting Room 5 (Renaissance) capacity: 58**513****Ensuring Equity: Leading the Movement (Teacher of Teachers) Session**

"Equity: All means *All*" is more than a catchy phrase. It is a call to action for teachers and teacher leaders. Participants will engage in rich discussions about how NCTM and its Affiliates can help address issues of equity in the classroom and the Affiliate organization.

Affiliate Services Committee

National Council of Teachers of Mathematics, Reston, Virginia

203 A/B (Convention Center) capacity: 150**514****Math Anxiety: A Hindrance to Equity?****(Teacher of Teachers) Session**

Preservice and in-service elementary school teachers often exhibit high levels of math anxiety that is often transmitted to their students. This session will discuss the ramifications of math anxiety and ways that this can be addressed in content and methods courses for preservice teachers.

Rita Eisele

Eastern Washington University, Cheney, Washington

204 C (Convention Center) capacity: 135**Come, Connect, Communicate****Coaching**

Meet with educators who share your interests to discuss how to improve teaching and learning related to coaching. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)

11:00 a.m.–12:00 noon

Come, Connect, Communicate**Grades 6–8**

Meet with educators who share your interests to discuss how to improve teaching and learning in grades 6–8. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

11:30 a.m.–12:30 p.m.

Exhibitor Workshop 33**Kendall/Hunt Publishing Company****Math Innovations: A New Middle School Mathematics Program**

Developed using Curriculum Focal Points, Math Innovations encourage students to think like mathematicians with a focus on verbal and written communication. Concepts are developed in a coherent, focused manner in conjunction with computational fluency.

*Room 143 A (Convention Center)***Exhibitor Workshop 34****Pearson****Supporting Your Math Adoption with Training and Professional Development (Grades K–12)**

Participants will review professional development options available that will increase fidelity of implementation and increase achievement results, identify how to match district needs with training options, and review results from other districts that implemented long-term training plans.

*Room 143 B (Convention Center)***Exhibitor Workshop 35****Kaplan K–12 Learning Services****Focused Math Intervention: What to Teach, What Not to Teach**

This successful math intervention addresses students' misconceptions, develops metacognition skills, monitors progress, and connects concepts to new learning. Through explicit instruction, assessment, and differentiation of instruction, learn how to engage struggling learners and make math meaningful.

*Room 143 C (Convention Center)***Exhibitor Workshop 36****Math Teachers Press****Data-Driven, Conceptually Based Instruction for All Tiers of Response to Intervention, Grades PreK–12**

This session will share how to use assessment data to differentiate instruction for the whole group setting and for individual students. Includes research based strategies and hands-on activities.

Room 144 A (Convention Center)

12:30 p.m.–1:30 p.m.

515**An Agenda for Impact in the Mathematics Education Excellence of Black Children (General Interest) Session**

Benjamin Banneker Association presentation
Presidents' Series presentation

This session reports out on the major position outcomes of the Benjamin Banneker Association regarding the 2007 National Leadership Summit held in Atlanta, Georgia.

Lou Matthews

lmatthews@gsu.edu

Benjamin Banneker Association, Chicago, Illinois

*146 A (Convention Center) capacity: 423***516****Implications of Brain-Based Research for Teaching Mathematics (General Interest) Session**

With new, noninvasive technology, neuroscientific research has made startling discoveries about the functioning of the brain. This presentation will review the research on brain development of elementary through high school students and implications for motivation, reasoning, goal-setting, language, and more in mathematics class.

Gloria Ann Neubert

gneubert@towson.edu

Towson University, Towson, Maryland

158 A/B (Convention Center) capacity: 137

517

TIMSS: What Can Be Learned from International Assessments?

(General Interest) Session

TIMSS is the most comprehensive international assessment in mathematics given at grades 4 and 8 every four years. This session will update recent changes and results of the assessment and examine what can be learned from such assessments to help participants understand their mathematics programs and consider changes they can make in their classrooms.

Mary M. Lindquist

Past President, National Council of Teachers of Mathematics; Columbus State University (Emerita), Lewisburg, West Virginia

Ina V. S. Mullis

Boston College, Boston, Massachusetts

Michael O. Martin

Boston College, Boston, Massachusetts

209 B/C (Convention Center) capacity: 213

518

Empower Your Students for Global Competitiveness

(General Interest) Session

Join leaders from NCTM and Verizon to discuss global competitiveness in today's hi-tech economy. American students are competing for jobs with international students. How does it all add up? Hear from a Dow 30 company about the skills necessary to keep our students competitive. The Verizon Foundation will facilitate this interactive session.

Albert Browne

Verizon Foundation, Basking Ridge, New Jersey

James M. Rubillo

Executive Director, National Council of Teachers of Mathematics, Reston, Virginia

Ballroom A (Convention Center) capacity: 1442

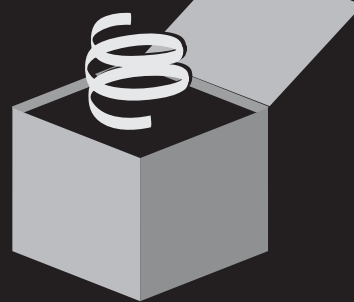
FRIDAY

Too Many Hats?



Simplify Your Day.

math

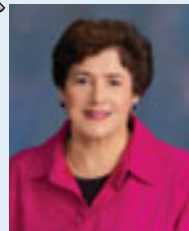


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519



Differentiated Instruction: Specific Strategies for All Students, Including ELLs and Other Learners

(General Interest) Session

Every student learns differently. The challenge is to differentiate as you recognize their differences. The speaker

will discuss specific strategies for problem solving, word problems, and mathematical language and communication. She will also address interventions for English language learners (ELLs) and other underrepresented learners.

Miriam Leiva is past-president of TODOS: Mathematics for ALL, a national organization committed to equity in mathematics education for all students, in particular Hispanic/Latinos and other underserved populations. She has been a teacher of mathematics for more than 35 years at all levels, grades K–12 and university, and is a distinguished professor of mathematics emerita at the University of North Carolina at Charlotte. Her work in mathematics education focuses on communicating in the mathematics classroom and problem solving. The strategies that she has studied and supports are aligned with good practices for both English language learners and all students and are grounded in research, good practices, and the NCTM Standards.

Miriam A. Leiva

TODOS: Mathematics for ALL, Harrisburg, North Carolina

Ballroom B (Convention Center) capacity: 1440

520

Mathematics Assessment Literacy: Just the Facts

(General Interest) Session

How are tests designed and scored? How are results used (and misused)? In an era of increased emphasis on testing, knowing the facts of assessment gives teachers, administrators, parents, policymakers, and students the power to decide how to use these results effectively.

Lew Romagnano

Metropolitan State College of Denver, Denver, Colorado

Ballroom C (Convention Center) capacity: 1442

521

Mathematical Reasoning with Rational Numbers, Rates, Ratios, and Proportions

(General Interest) Session

Examine the role of mathematical reasoning in developing students' abilities to make sense of rational numbers and proportional reasoning. Using problem situations, you will learn about the relationships between such reasoning opportunities and students' development of conceptual and procedural understanding of these mathematical ideas.

Glenda Lappan

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

Grand Ballroom South (Renaissance) capacity: 430

522

Developing and Supporting Coaches: Professional Development (PD) to Cultivate High Expectations and Support for All

(General Interest) Session

Why is coaching an emerging PD strategy? What are characteristics of exemplary coaching initiatives? What evidence demonstrates that coaching leads to improved instruction and students' increased achievement? Explore coaching as transformative PD.

Nan Dempsey

South Carolina Department of Education, Duncan, South Carolina

Renaissance West A (Renaissance) capacity: 162

523

Movement and the Enhancement of Math Ability in Young Children

(PreK–2) Session

Children love to move. Learn how to harness that energy and turn it into enthusiasm for acquiring number concept skills, including skip counting, multiplication, and division. Come see how movement can motivate your students and simultaneously strengthen their math skills.

Suzanne Dopyera Kuntz

Math Made Fun, Ithaca, New York

156 (Convention Center) capacity: 156

Thank you to the Local Arrangements Committee and Program Committee members. Your time and dedication made this year's Annual Meeting and Exposition such a success!

524**Beyond Finger Counting: Build a Strong Mental Framework for Number in First-Grade Students****(PreK–2, Teacher of Teachers) Session**

Developing a strong sense of number in primary grades is crucial if *all* students are to succeed in higher-level mathematics. Come find out how a Japanese grade 1 textbook helped the presenters design a curriculum map focused on developing this strong mental schema for number in their students. The curriculum map and lesson study findings will be shared.

Elizabeth Clifford

Little Rock School District, Little Rock, Arkansas

Suellen Dimassimo

Little Rock School District, Little Rock, Arkansas

Marian Cunningham

Little Rock School District, Little Rock, Arkansas

Ashleigh McGee

Little Rock School District, Little Rock, Arkansas

102 A (Convention Center) capacity: 144**525****One Potato, Two Potato: Building Mathematical Concepts in Young Children with Small-Group Activities****(PreK–2, Teacher of Teachers) Session**

Important mathematical concepts like number relationships of more, less, and same; part-part-whole; and early spatial sense require interactive activities that engage early learners. The five strands of mathematical proficiency, interwoven with literature-based experiences, and graphic organizers will be provided for attendees.

Elizabeth Todd Brown

University of Louisville, Louisville, Kentucky

Lana B. Thomas

University of Louisville, Louisville, Kentucky

207 B (Convention Center) capacity: 426**526****Guided Math: A Flexible Framework for Mathematics Instruction****(PreK–5) Session**

This presentation focuses on how elementary school teachers use ongoing assessment data and their knowledge of the curriculum to choose from the Guided Math instructional grouping options. These options differentiate instruction and meet the needs of their students best during a week of mathematics instruction.

Laney Sammons

Samuel E. Hubbard Elementary School, Forsyth, Georgia

Wendy Hamm

T. G. Scott Elementary School, Forsyth, Georgia

152 B (Convention Center) capacity: 262**527****Black and White and Read All Over: Using Newspapers to Teach Math in Elementary School Education****(PreK–5) Session**

One of the advantages of using the newspaper is that it enables students to see how math is used in daily life. Participants will be encouraged to think about the benefits of using the newspaper to teach such concepts as addition, multiplication, geometry, graphing, and percents.

Ruth Renee Kennedy

Bloomsburg University of Pennsylvania, Bloomsburg, Pennsylvania

202 B (Convention Center) capacity: 418**528****Math Collaborative: A Journey through the Complexities of Coaching****(PreK–5, Teacher of Teachers) Session**

What happens when teachers participate in Math Collaborative, a professional development model that involves working with a math coach and participating in a study group? The presenters will share the results of their investigation about what teachers found to be the most effective coaching strategies and course sessions in improving their instruction.

Jessica Shumway

Fairfax County Public Schools, Falls Church, Virginia

Maria I. Granados

Fairfax County Public Schools, Falls Church, Virginia

Congressional Hall A (Renaissance) capacity: 198**529****Mathematics Textbooks and State Curriculum Standards: How Much Do the Two Really Agree?****(PreK–8) Research Session**

Since the passage of No Child Left Behind, states have spent considerable effort creating or revising standards for mathematics. But to what extent do mathematics textbooks provide coverage for these standards? This session examines the alignment between state standards and elementary and middle grades textbooks for the topic of fractions.

Shannon W. Dingman

University of Arkansas, Fayetteville, Arkansas

204 C (Convention Center) capacity: 135

530**Jump Start Your Class with These Quick Motivators!****(3–5) Session**

Get more than 20 standards-based ideas to start your class off with a bang. Using basic materials and manipulatives, you will explore each strand of mathematics. Leave the session with ready-to-use ideas for your classroom for the next day.

Cathy D. Massett

Cobb County School District, Marietta, Georgia

103 B (Convention Center) capacity: 164

531**Best Practices and Reasoning Strategies through Students' Interactive Journals****(3–5) Session**

Interactive journals are communication tools that students can use daily to take notes and to reflect on the day's activities. This session will share how to use interactive journals in the math classroom. Participants will walk away with a journal for number and operations and one for measurement.

Faye Bruun

Coastal Council of Teachers of Mathematics, Corpus Christi, Texas

Laura Perales

Coastal Council of Teachers of Mathematics, Corpus Christi, Texas

Independence F/G (Hyatt) capacity: 120

532**Pose It and Solve It to Deepen Number Sense****(3–5) Session**

Problem posing and problem solving offer rich opportunities to deepen students' number sense. Visual prompts, interesting problems, and students' work will be explored. Common misconceptions about numbers will be highlighted. Come explore problems and develop a "what if" frame of mind.

Linda S. Dacey

Lesley University, Cambridge, Massachusetts

Renwick/Bulfinch (Hyatt) capacity: 72

533**Using Children's Mathematical Thinking to Enhance the Teaching of Mathematics at the Elementary School Level****(3–5, Teacher of Teachers) Session**

This session will describe how a knowledge of children's mathematical thinking can be used to enhance whole-class activities and with students who are struggling with mathematics. Illustrations will be taken from the Connecting Mathematics for Elementary Teachers' (CMET) project. CMET describes how children understand and learn mathematics.

David Feikes

Purdue University North Central, Westville, Indiana

Keith Schwingendorf

Purdue University North Central, Westville, Indiana

147 B (Convention Center) capacity: 255

534**Electronic Manipulatives, Virtual Math Tools for Elementary Education****(3–8) Session**

"Technology is essential," especially when used appropriately. Come discover how it applies with the new Cabri Elementary SW. Direct Manipulation and Dynamic Visualization are made available from grades 3 and up. Students and their teachers can freely interact with math objects (numbers and shapes) enhancing the teaching and learning of math.

Jean-Marie Laborde

Centre National de la Recherche Scientifique—Grenoble University, Grenoble, Isère, France

140 A (Convention Center) capacity: 154

**535****Project Math Lit: Using Children's Literature to Equalize Mathematics Pedagogy****(3–8, Teacher of Teachers) Session**

This session explores using literature to increase students' investment in learning. Project Math Lit focuses on teaching math through a emphasis on linguistic learning styles. Three teachers guided 200 students in exploring math concepts and writing new math stories. Background theory, project activities, and grading rubrics will be shared.

Edel Mary Reilly

Indiana University of Pennsylvania, Indiana, Pennsylvania

Scott Greene

Windsor Locks Middle School, Windsor Locks, Connecticut

Julie Anne Bisi

Christ the Divine Teacher School, Latrobe, Pennsylvania

209 A (Convention Center) capacity: 107

536**Nice Problems for the Elementary, Middle, and High School Levels****(3–8, Teacher of Teachers) Session**

A good problem has a simple rule to get into it, engages students in mathematical thinking, provides practice in computation, and is related to higher-level mathematics. Want to see such problems? Several very useful handouts will be available for classroom use.

Jerry P. Becker

Southern Illinois University Carbondale, Carbondale, Illinois

Renaissance East (Renaissance) capacity: 320

537**Leaping Frogs and Flying Airplanes****(3–8, Teacher of Teachers) Session**

Let leaping frogs, flying airplanes, and folding objects bring geometry alive for your students. Why not use activities that have multiple purposes? Leaping frogs can be used for measurement as well as probability and statistics. Hands-on activities will also be related to Internet resources as well as children's literature.

Joy Black

University of West Georgia, Carrollton, Georgia

144 C (Convention Center) capacity: 156

538**The Division Algorithm: Connections to School Mathematics****(3–12) Session**

The division algorithm and some of its connections to school mathematics will be discussed. It is essential that teachers understand how this theorem underlies important concepts and procedures in the school mathematics curriculum (e.g., long division algorithm for integers and polynomials, repeating decimals, and Euclidean algorithms).

Ira J. Papick

University of Nebraska–Lincoln, Lincoln, Nebraska

Cabin John/Arlington (Hyatt) capacity: 88

539**Toma Todo and Other Games: Connecting Probability with Cultures around the World****(6–8) Session**

Which games are fair, and why? Participants will learn how to play games from around the world such as Toma Todo, Mancala, Lu-Lu, and others. The attendees will explore the probability underlying these games from a conceptual viewpoint. The audience will receive a handout with an explanation of the rules and worksheet for each game.

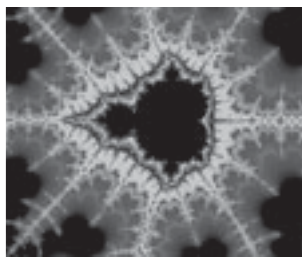
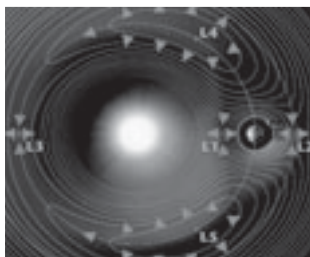
Mary Alice Smeal

Auburn University, Auburn, Alabama

203 A/B (Convention Center) capacity: 150

Booth 1517 at NCTM

MATHeMATICS illuminated



A 13-part multimedia course on the theories, history, and beauty of mathematics

- Visit booth 1517 to learn more about this and other math video and Web resources.
- Participate in a session on Mathematics Illuminated on Thursday, April 24, 2:30 p.m.

 **Annenberg Media**
800-LEARNER www.learner.org

540

Engagement + Exploration = Learning, a New Equation in Digital Gaming**(6–8) Session**

Got Game? Get the 411 on an innovative, online digital game developed to build prealgebra and critical thinking skills in a new generation of tech savvy students. Learn about the successful application of educational games and effective classroom integration through Lure of the Labyrinth, a free, newly released, interactive math game.

Scot Osterweil

Massachusetts Institute of Technology, Boston, Massachusetts

Ellen Mangels

Baltimore City Public Schools, Towson, Maryland

Lafayette Park (Hyatt) capacity: 78

541

Challenging Mathematics Courses for All Students**(6–8) Research Session**

The NSF-funded Greater Birmingham Mathematics Partnership defines challenging courses as those that promote (1) deepening understanding of important mathematical ideas, (2) inquiry and reflection, (3) productive disposition, and (4) communication. The presenters will illustrate this definition and describe the results of classroom research.

Bernadette Mullins

Birmingham-Southern College, Birmingham, Alabama

Rachel Cochran

Center for Educational Accountability, Birmingham, Alabama

John C. Mayer

University of Alabama at Birmingham, Birmingham, Alabama

Tommy Smith

University of Alabama at Birmingham, Birmingham, Alabama

Meeting Room 12/13/14 (Renaissance) capacity: 90



542

Teaching for Understanding with Mathematics Teaching in the Middle School (MTMS)**(6–8, Teacher of Teachers) Session**

MTMS offers opportunities for educators to reach students of all abilities while teaching for understanding. A panel of teachers will share classroom-tested ways they have used the journal to challenge students while building conceptual knowledge.

Mathematics Teaching in the Middle School Editorial Panel

National Council of Teachers of Mathematics, Reston, Virginia

146 C (Convention Center) capacity: 414

Classroom Management and Motivation: How It Can Work for You**(6–12) Session**

Understand how motivation works and does not work with students. What can you do? Learn to create situations and environments that are motivating and engaging to students, that improve your classroom management skills, and that support you in teaching math.

James Middleton

Arizona State University, Tempe, Arizona

150 B (Convention Center) capacity: 248

544

Jump-Start: Five-Minute, Period-Opening Activities for all Mathematics Classes**(6–12) Session**

Use foreign texts, manipulatives, patterns, conjectures, explorations, quizzes, historical quotes, and recreational mathematics to get your math class off to a punctual, purposeful start. Nine types of activities will be investigated that were developed, refined, and used for more than 30 years.

Robert Gerver

North Shore High School, Glen Head, New York

Auditorium (Renaissance) capacity: 282

545

Negatives, Opposites, and Taking Away: How Are They All Connected?**(6–12, Higher Education) Session**

One of the greatest challenges to teaching algebra is dealing with negative numbers and subtraction signs. The presenters will discuss moving from “a negative times a negative make a positive” to understanding the manipulation of the symbols. Research and classroom ideas for effectively teaching signed numbers will be presented.

Astrida Cirulis

Concordia University, Oak Park, Illinois

Independence A (Hyatt) capacity: 800

546

The Mystery Mix: Using Fathom™ to Encourage Inferential Reasoning**(6–12, Teacher of Teachers) Session**

Profiling how students reasoned about a jar of chips of an unknown ratio of yellow to green, the presenters will highlight students' sensitivity to variability regarding their methods of sampling, results, and conclusions about the true ratio in the jar. Participants will learn how using Fathom developed a better sense of inferential reasoning.

Dan Canada

Eastern Washington University, Cheney, Washington

Michael Gilbert

University of Hawaii, Honolulu, Hawaii

Constitution B (Hyatt) capacity: 196

547**Emphasizing the Process of Problem Solving in Mathematics****(6–12, Teacher of Teachers) Session**

This presentation discusses a secondary school mathematics curriculum of 60 open-ended, nonroutine problems developed over 12 years. Approximately two-thirds of the problems are completed in cooperative groups; the problems include a variety of nonmathematical applications that are easily integrated into the traditional mathematics curriculum.

Robert London

California State University, San Bernardino, San Bernardino, California

Renaissance West B (Renaissance) capacity: 162

548**Making Room for Geometry in an Algebra-Driven Curriculum****(9–12) Session**

Recent discoveries in geometry, the availability of dynamic software, and new insights into students' learning make geometry an exciting subject to teach. Yet state-mandated assessments and college placement tests emphasize algebra as the central focus of the grades 9–12 curriculum. Learn how this dilemma can be resolved.

Timothy Craine

Central Connecticut State University, New Britain, Connecticut

145 B (Convention Center) capacity: 278

549**Technology Quick Hits for Algebra 2****(9–12) Session**

Come see how technology can help develop your students' understanding of parabolic motion, exponential decay, piecewise functions, and logistics growth. Each activity can be used as a quick, ten-minute demonstration by the teacher or expanded into a whole-class exploration.

Vincent LaVergne

Shawnee Mission South High School, Overland Park, Kansas

149 A/B (Convention Center) capacity: 174

550**Drop the Chalk and Engage All Your Students Using Technology****(9–12) Session**

Discover new ways of addressing the needs of unique learners in your classroom by using technology as a teaching tool. This presentation will (1) demonstrate various programs used with an interactive whiteboard in a geometry and trigonometry classroom, (2) encourage participants to exchange ideas regarding this topic, and (3) offer grant ideas.

Cindy Lou Hasselbring

Milan High School, Milan, Michigan

David Johnson

Eastern Michigan University, Ypsilanti, Michigan

151 B (Convention Center) capacity: 284

551**Engaging Students in Statistics: Using Projects to Improve Understanding and Performance****(9–12) Session**

Join this student-teacher team as they discuss how to better prepare and engage students with fun, exciting projects to gain greater knowledge of the students' strengths and weaknesses with statistics. Topics include sampling, experiments, normality, and regression. Student and teacher insights will prepare you to implement these projects.

Christy Gillespie

Kent Place School, Summit, New Jersey

Amanda Grywalski

Kent Place School, Summit, New Jersey

Farragut Square (Hyatt) capacity: 72

552**Building a Successful Mathematics Program in Schools****(9–12) Session**

This session will discuss discovery-based instruction, challenging curriculum, alternative assessments, NCTM's *Standards*, and the TIMSS Report. Hear how one mathematics department put all these ingredients together over the past 10 years to build a successful mathematics program.

James John Paniati

Northwestern Regional High School, Winsted, Connecticut

Wilson/Roosevelt (Hyatt) capacity: 88

12:30 p.m.–1:30 p.m.

553

Forming Partnerships among Teachers, Mathematicians, and Mathematics Educators through Lesson Study

(9–12, Higher Education, Teacher of Teachers) Session

Lesson study involves collaboratively planning, implementing, discussing, and revising lessons. The presenters will describe how this model was used in a mathematics partnership grant project funded by the state of Delaware. The project brought teachers, mathematicians, and mathematics educators together to improve mathematics instruction.

Randall E. Groth

Salisbury University, Salisbury, Maryland

Jennifer Bergner

Salisbury University, Salisbury, Maryland

Meeting Room 5 (Renaissance) capacity: 58

Come, Connect, Communicate

Grades 3–5

Meet with educators who share your interests to discuss how to improve teaching and learning in grades 3–5. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

Come, Connect, Communicate

Action Research

Meet with educators who share your interests to discuss how to improve teaching and learning in action research. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)

1:00 p.m.–2:00 p.m.

Exhibitor Workshop 37

Kendall/Hunt Publishing Company

Math Trailblazers 3rd Edition as Seen through the Lens of the NEW Standard Course of Study

*FOCUS IN on our complete research- and standards-based, National Science Foundation-funded grades K–5 mathematics program. *ZOOM IN on a curriculum that integrates math, science, and language arts. SNAPSHOT Activities

Room 143 A (Convention Center)

Exhibitor Workshop 38

Pearson

The Best Math Course You'll Ever Teach

Tired of hearing “When will I ever use this stuff?” Want to bring real-life applications of mathematics to students headed for almost every field? Teach statistics, the math they’ll use throughout their lives. (Grades 9–12)

Room 143 B (Convention Center)

Exhibitor Workshop 39

HP Calculators

A New CAS Graphing Calculator for AP Calculus and Statistics

Introducing the HP 40GS graphing calculator with its interactive CAS for AP Calculus and both descriptive and inferential statistics applications for AP Statistics. Come get hands-on experience with the HP 40GS and the StreamSmart data-streamer.

Room 143 C (Convention Center)

Exhibitor Workshop 40

Rhymes ‘n’ Times

Conquer Times Tables in 3 WEEKS—GUARANTEED!

Research-based, multisensory program uses differentiated instruction. Sister products: Fishin’ for Addition, Subtraction in Action, Divide ‘n’ Slide. www.rhymesntimes.com

Room 144 A (Convention Center)

1:00 p.m.–2:30 p.m.

554

Shuffling into Math, Grades K–2: Math Games Using Cards and Dice

(PreK–2, Teacher of Teachers) Gallery Workshop

Come prepared to play and learn card and dice games that help your youngest students achieve success in basic number sense, place value, operations, and graphing. This strategy-based workshop will include ideas for implementing games into your program, math backpacks for home play, and reproducible game boards.

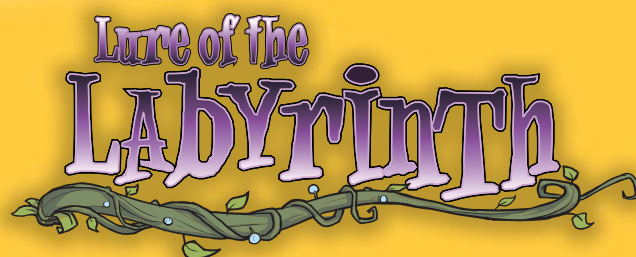
Jane Felling

Box Cars & One-Eyed Jacks, Edmonton, Alberta, Canada

206 (Convention Center) capacity: 323

FRIDAY

Sometimes You Just Have To Teach **MATH** With A Little Twist!



a **FREE** online **Math Game**
designed for the classroom

- Multiple levels and puzzles
- Pre-Algebra: Ratios, Fractions, Variables, Number and Operations
- Aligned to national math standards

LEARN MORE

VISIT EXHIBIT BOOTH #1017
for Ongoing Game Demonstrations

CONFERENCE SESSION WITH MIT GAME DESIGNER Scot Osterweil
Engagement + Exploration = Learning,
a New Equation in Digital Gaming



Lure of the Labyrinth was developed under a grant from the U.S. Department of Education. However, the contents do not necessarily represent the policy of the Department of Education and you should not assume endorsement by the Federal Government.

Labyrinth is a collaboration of Maryland Public Television, MIT's Education Arcade, and FableVision

LABYRINTH.THINKPORT.ORG

NCTM 555**Prealgebra and Geometry: Understanding and Teaching Pivotal Content for Elementary Grades****(PreK–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!

Joseph Zilliox

University of Hawaii, Honolulu, Hawaii

Neil Pateman

University of Hawaii, Honolulu, Hawaii

147 A (Convention Center) capacity: 243

556**Camping In, Math Style****(PreK–5) Gallery Workshop**

Are you hiking through the world of mathematics looking for great ideas? You will hike to math “trail posts,” record ideas in your Camp Journal, and fill your backpack with great ideas. Learn how to replicate a Math Camp experience for your classroom or building. Handouts (and s’mores) provided.

Kelli Lyn Shrewsberry

South Western City Schools, Grove City, Ohio

Jessica Cahill

South Western City Schools, Grove City, Ohio

Mary Polen

South Western City Schools, Grove City, Ohio

Phyllis Bates

South Western City Schools, Grove City, Ohio

Jan Wilson

South Western City Schools, Grove City, Ohio

150 A (Convention Center) capacity: 226

557**A Trip to the Zoo Is a Super Way for Everyone to Learn Math****(PreK–5) Gallery Workshop**

Come and plan a trip to a zoo by using math as a way to reach all the different levels of your students. Participants will explore the different ways of finding the best way to see all the animals, vote for their favorite animal, and get ideas for using discrete math. Participants will leave with many great ideas to help their class plan a trip to the zoo.

Susan Weiss

Solomon Schechter Day School, Newton, Massachusetts

154 A/B (Convention Center) capacity: 162

558**Focal Points + Manipulatives = Learning for Understanding!****(PreK–5) Gallery Workshop**

Using ideas from NCTM’s *Curriculum Focal Points*, the speaker will share grades K–5 activities using counters and manipulatives targeting algebra, fractions, decimals, measurement, geometry, and problem solving. You will learn how to use the counters to teach students important mathematical concepts. Handouts and materials will be provided.

Jeannie K. I. Gee

Des Moines Public Schools, Des Moines, Iowa

207 A (Convention Center) capacity: 339

**559****Huff, Puff, and Blow Them Away: Math Night and Beyond****(PreK–5) Gallery Workshop**

Add a fairy tale twist to hands-on stations that encourage problem solving through each content strand. Walk away with a variety of activities that can be incorporated into a family math night, learning centers, assessment, or classroom lessons. Tips for organizing a successful family math night will be shared.

Victoria Bohidar

Chesterfield County Public Schools, Chesterfield, Virginia

Kimberly Bender

Chesterfield County Public Schools, Chesterfield, Virginia

Kathryn Morgan Munson

Chesterfield County Public Schools, Chesterfield, Virginia

144 B (Convention Center) capacity: 96

560**Pocket Charts + Graphic Organizers = Increased Success for Second Language Learners****(PreK–5, Teacher of Teachers) Gallery Workshop**

Participate in math lessons that use oral and written language strategies to facilitate vocabulary development, conceptual understanding, and problem solving. Activities using pocket charts, graphic organizers, and math journals will be shared along with video clips of classroom lessons. Time will be allocated for grade-level discussion.

Judy Diane Devens-Seligman

Hacienda La Puente Unified School District, Valinda, California

Chrissy Jane Koester

Hacienda La Puente Unified School District, Valinda, California

151 A (Convention Center) capacity: 291

561**Rock with Paper and Scissors****(PreK–8) Gallery Workshop**

Strengthen your students' spatial-reasoning and visual-thinking skills with paper folding and cutting. Puzzles, pop-ups, and more offer challenges and spark creativity. Students at all grade levels can benefit from these challenges to their spatial proficiency and have fun at the same time. This craft spans centuries and cultures.

Sara Normington

Catlin Gabel School (Semiretired), Portland, Oregon

Meeting Room 8/9 (Renaissance) capacity: 60

562**Error Patterns: Analyzing Students' Work and Instructional Alternatives****(3–5) Gallery Workshop**

Developing and using place-value, whole-number, rational-number, and decimal concepts and skills is crucial to students' formal and informal mathematical success. This session offers analyses of students' errors with work samples. It will engage participants in alternative instructional strategies and games. Handouts will be provided.

Helene Joan Sherman

University of Missouri—Saint Louis, Saint Louis, Missouri

152 A (Convention Center) capacity: 226

563**Rational Number Project: What We Have Learned about Teaching Fraction Addition and Subtraction****(3–8) Gallery Workshop**

Participants will work with different models from the Rational Number Project fraction curricula that have shown to be effective in teaching fraction addition and subtraction. Participants will also examine students' work to see the impact these models have on students' order, estimation, and procedural skills.

Kathleen Cramer

University of Minnesota—Twin Cities, Minneapolis, Minnesota

Terry Wyberg

University of Minnesota—Twin Cities, Minneapolis, Minnesota

Seth Leavitt

Minneapolis Public Schools, Minneapolis, Minnesota

Stephanie Whitney

University of Minnesota—Twin Cities, Minneapolis, Minnesota

102 B (Convention Center) capacity: 204

**564****Problem Solving with African Stone Games****(3–8) Gallery Workshop**

Come and play Mancala, the African stone game! Learn the rules, play some games, and discuss strategies. Then solve related problems involving number patterns and the strategy of working backward. Historical notes will be shared, and variations of the game will be examined.

Dave Kennedy

Shippensburg University, Shippensburg, Pennsylvania

204 A/B (Convention Center) capacity: 227

565**Tuesdays' Tutors: Integrating Collaborative Reasoning and Problem Solving in an After-School Program****(3–8) Gallery Workshop**

The session explains how collaborative reasoning (CR) is used in a weekly tutoring program called Tuesdays' Tutors, for English language learners in grades 3–7. CR discussions develop skills of reasoned argumentation. CR supports students' literacy development and problem-solving skills. The session includes video vignettes and example problems.

Tracy J. Goodson-Espy

Appalachian State University, Boone, North Carolina

Ann Marie Clark

Appalachian State University, Boone, North Carolina

Lisa Gross

Appalachian State University, Boone, North Carolina

Independence H/I (Hyatt) capacity: 95

566**Orienteering: Compass Work, Measurement, Graphing****(3–8) Gallery Workshop**

The skill of orienteering and the use of a compass can be powerful tools in math instruction. Compass skills lend themselves easily to many aspects of measurement, graphing, and geometry. This session will also demonstrate how these skills can help in writing multistep word problems.

Gerald C. Murphy

Edgemont School District, Scarsdale, New York

Patricia Hill D'Agostino

Edgemont School District, Scarsdale, New York

202 A (Convention Center) capacity: 368

567**Mathematics Can Make Sense Every Day through Communication and Connections across the Curriculum****(3–8, Teacher of Teachers) Gallery Workshop**

Participants will engage in hands-on activities that can be used to help *all* preservice elementary school teachers make sense of various math concepts. Participants won't want to miss the plethora of activities and handouts that they'll take with them!

Rebecca R. Robichaux

Mississippi State University, Starkville, Mississippi

Paulette R. Rodrigue

Nicholls State University, Thibodaux, Louisiana

*Grand Ballroom Central (Renaissance) capacity: 337***568****Equity: Pizza, Pop, and Problems for All!****(3–12) Gallery Workshop**

Avoid hunger, grow professionally! Oregon brings professional development equally to teachers around the state with this enticing invitation: Explore your inner mathematician and enjoy pizza and pop while probing a math task that can span grades K–12. While getting messy with the math, best practices will be modeled and discussed for classroom use

Patty Sandoz

Oregon Council of Teachers of Mathematics, La Grande, Oregon

*145 A (Convention Center) capacity: 244***569****Seven (5 + 2) Pieces of Cunning****(6–8) Gallery Workshop**

Participants will investigate the properties of geometric shapes—measurement, area, angles, spatial relationships, transformations, symmetry, and so on through the construction of a seven-piece tangram. Construction will include teamwork and the art of paper folding. Participants will experience how the tangram might be used to help all children.

William Christopher Luke

Central Texas College, Killeen, Texas

Gregory Paul Luke

Rosebud-Lott Independent School District, Rosebud-Lott, Texas

*159 A/B (Convention Center) capacity: 109***570****Why Tile? Exploring Connections through Patterns****(6–8) Gallery Workshop**

Participants will explore the algebraic and geometric connections of tile patterns using multiple approaches and multiple technologies. Participants will experience a classroom activity so they can teach it the way students learn it.

Valerie Muller

Carnegie Learning, Greenville, South Carolina

*Constitution C/D/E (Hyatt) capacity: 200***571****Bridges to Understanding Linear and Nonlinear Functions****(6–8) Gallery Workshop**

This session will investigate linear and inverse variation through activities adapted from the CMP2 unit, Thinking with Mathematical Models. Bridges will be constructed and predictions made as the structures change. TI-73 calculators will be used to analyze the data, making connections between models, tables, graphs, and equations.

Gloria Routt Beswick

Partnership Institute for Mathematics and Science Education Reform, Louisville, Kentucky

Rhonda Niemi

Jefferson County Public Schools, Louisville, Kentucky

*Independence B/C (Hyatt) capacity: 95***572****Math on the Move!****(6–12) Gallery Workshop**

Come prepared to move! Participants will try out lessons that use kinesthetic and visual learning modalities that helped students be successful on many topics from the standards of geometry, algebra, and number sense, and operations. Many of the topics discussed in this session begin in upper elementary school and continue into high school.

Julie Nurnberger-Haag

COSMOS, Bowling Green, Ohio

146 B (Convention Center) capacity: 340

2009 NCTM Regional Conferences:
Boston, MA • October 21 – 23
Minneapolis, MN • November 4 – 6
Nashville, TN • November 18 – 20

573**Understanding and Solving Systems of Equations Physically, Algebraically, and with Technology****(6–12) Gallery Workshop**

Solve systems of linear equations in two and three variables using nine methods representing a variety of learning styles (manipulatives, graphs, algebraic, and technology). Each participant will create a physical representation of the systems to understand the solutions better. A graphic organizer will confirm the relationships among methods.

Kimberly K. Jones

The Learning Institute, Hot Springs, Arkansas

Pam Berry

The Learning Institute, Hot Springs, Arkansas

140 B (Convention Center) capacity: 125**574****Investigations in Geometry for 2009****(6–12, Teacher of Teachers) Gallery Workshop**

Can you tile the plane with pentominoes? What are all the Archimedean tilings? What is Pick's formula? How do you construct eight circles, each tangent to two others and internally tangent to a given circle? If any of these are new to you, explore some not so typical but very cool geometry investigations.

Michael Serra

Consultant, San Francisco, California

Grand Ballroom North (Renaissance) capacity: 298**575****Connecting the Dots: Mathematical Tasks to Build an Understanding of Functions****(9–12) Gallery Workshop**

How do ideas about functions build across grade levels? What characteristics make a function linear, quadratic, or exponential? Participants will work with a series of related mathematical tasks to make new connections among function representations, including graphical, numeric, visual, algebraic, and story context.

Barbara B. Kuehl

Salt Lake City School District, Salt Lake City, Utah

Scott J. Hendrickson

Brigham Young University, Provo, Utah

103 A (Convention Center) capacity: 232

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FRIDAY

1:00 p.m.–2:30 p.m.

576

Building Origami Polyhedra = Building Spatial Reasoning**(9–12) Gallery Workshop**

Come build face, edge, and skeletal models to see how origami can engage a wide range of students in exploring deep 3-D geometric concepts surface and dihedral angles, axes and planes of symmetry, chirality, and duality. Folding becomes vocabulary review. Assembling takes visualization and reasoning. Resulting models invite further study.

Peg Cagle

Lawrence Gifted Magnet School, Chatsworth, California

201 (Convention Center) capacity: 326

577

Type 2 Error and Power of a Test: Statistics with the TI-84 Plus™**(9–12, Higher Education) Gallery Workshop**

Simulation techniques that enhance the understanding of Type 2 error and the power of a test will be examined using the TI-84 Plus graphing calculator. Hands-on activities that model effective classroom use of technology will be presented.

Mike Koehler

Blue Valley North High School, Overland Park, Kansas

Independence D/E (Hyatt) capacity: 95

578

Data on Trial: Give Students the Big Picture of Inferential Statistics from Day One**(9–12, Higher Education, Teacher of Teachers) Gallery Workshop**

Why not start your statistics course with hypothesis testing? Too often the most important ideas of statistical reasoning are left to the end of a statistics course. An initial grounding in the big ideas of inference and hypothesis testing helps students focus on the need for the rest of the statistical process.

Andy D. Jones

Prince George's Community College, Largo, Maryland

Joanne Weinberg

Prince George's Community College, Largo, Maryland

101 (Convention Center) capacity: 170

579

Weird and Wacky Ways to Stimulate Students' Success**(9–12, Teacher of Teachers) Gallery Workshop**

Build walls with dominos, construct ramps with balsa wood, play a game with human bodies as the pieces. Experience weird and wacky activities that provide students with learning opportunities for mastering trigonometry, exponents, and more. Enjoy the challenges, leave with engaging projects for your students.

Gail Kaplan

Towson University, Towson, Maryland

Constitution A (Hyatt) capacity: 180

580

Exploring Number Bases throughout the Grades K–16 Curriculum**(Teacher of Teachers) Gallery Workshop**

Number bases are prevalent throughout the history of mathematics. The Babylonians and Mayans used bases sixty and twenty respectively, whereas computers employ bases two and sixteen. This workshop will focus on base conversions, base arithmetic, and viewing base piece models to feel the mathematics physically.

Jay L. Schiffman

Rowan University, Glassboro, New Jersey

208 A/B (Convention Center) capacity: 95

2:00 p.m.–3:00 p.m.

581

**NCTM Business Meeting (General Interest) Session**

This session will provide a summary of the past year's significant accomplishments and an overview of current and future strategic directions of NCTM.

James M. Rubillo

Executive Director, National Council of Teachers of Mathematics, Reston, Virginia

156 (Convention Center) capacity: 156

582**Fellows for the Advancement of Mathematics Education (FAME)****(General Interest) Session**

Elementary and middle grade teachers have become local and national leaders in reforming mathematics education through long-term professional development with mathematicians and mathematics educators. Fellows from New York City, Albuquerque, and Washington, D. C., will give personal histories of what makes change possible.

Madeleine Long

Hunter College, New York City, New York

Cindy Chapman

Retired, Albuquerque, New Mexico

Florence Fasanelli

American Association for the Advancement of Science, Washington, D.C.

203 A/B (Convention Center) capacity: 150

583**A Path to Lesson Study****(General Interest) Session**

We learned, we tried, we succeeded. Learn about the presenters' path to lesson study that focused on best practices for English learners and used experts brought in through the Web. Information about their yearlong professional learning community that culminated in a public lesson will be shared, as well as time lines, activities, and resources.

Bob McDonald

TODOS, Mathematics for ALL; Cartwright School District, Phoenix, Arizona

Theresa Trujillo

TODOS, Mathematics for ALL; Cartwright School District, Phoenix, Arizona

209 A (Convention Center) capacity: 107

**584****Teachers and Schools Matter! Closing the Achievement Gap****(General Interest) Session****Equity Coalition Presentation**

Teachers and schools can make the difference in closing the achievement gap. Though the achievement gap still exists, there are places that defy the data. Some of these success stories will be presented.

Kati Haycock

Education Trust, Washington, D.C.

Ballroom C (Convention Center) capacity: 1442

585**Bridge across the Americas: Preparation and Professional Development of Math Teachers in Latin America****(General Interest) Session**

An overview of math teacher preparation and development in Latin America with examples from Brazil (math modeling in teacher preparation), Costa Rica (challenges of initial teacher preparation) and Mexico (professional development of math teachers).

Patrick Scott

New Mexico Public Education Department, Santa Fe, New Mexico

Maria Salett Biembengut-Hein

Fundação Universidade Regional de Blumenau, Blumenau, Santa Catarina, Brazil

Eduardo Mancera

National Association of Teachers of Mathematics—Mexico, Mexico City, Distrito Federal, Mexico

Angel Ruiz

University of Costa Rica, San Jose, Costa Rica

Lafayette Park (Hyatt) capacity: 78

586**Mixing Assessment and Instruction: Getting Children to Think and Talk about Measurement Meaningfully****(PreK–2) Session**

The presenters will share lessons, stories, and video of how a study integrated diagnostic assessment with experiential instruction through rich language development and context-based, mathematical problem solving. Students could make sense of content meaningfully, and teachers could assess clearly how children think about measurement concepts.

Jennifer Anne Schiller

University at Buffalo, State University of New York, Buffalo, New York

Julie Sarama

University at Buffalo, State University of New York, Buffalo, New York

Douglas H. Clements

University at Buffalo, State University of New York, Buffalo, New York

Jeff Barrett

Illinois State University, Normal, Illinois

144 C (Convention Center) capacity: 156

587**Equity for All: Recognizing and Nurturing Mathematical Talent in Low-Income Elementary Students****(PreK–5) Session**

Talented math students? “Not in this low-income school.” “Wait!” say the speakers. “We have found them, and there are more than just a few!” Come learn how teachers helped talented students think and act like mathematicians while talking and writing about high-level questions. Students’ work and practical strategies for success will be shared.

Tutita Casa

University of Connecticut, Storrs, Connecticut

Katherine Gavin

University of Connecticut, Storrs, Connecticut

146 C (Convention Center) capacity: 414**588****Mental Mathematics: How Can We Ensure Success for All?****(PreK–5) Session**

Mental mathematics is an important, daily life skill that all students should have. This session will describe a structure and teaching sequence for this important strand that has been shown to provide success for all students. It begins with a carefully planned program of number fact work involving all four operations.

Calvin Irons

Queensland University of Technology, Brisbane, Queensland, Australia

150 B (Convention Center) capacity: 248**589****Striving for More Authentic Connections between Mathematics and Children’s Literature****(PreK–5) Session**

Children’s literature with mathematical dimensions should provide a pleasurable and authentic literary experience as well as the opportunity to use mathematics for authentic purposes. This session will highlight connections between literature and mathematics. Handouts will be provided.

Jeffrey Shih

University of Nevada, Las Vegas, Las Vegas, Nevada

Cyndi Giorgis

University of Nevada, Las Vegas, Las Vegas, Nevada

151 B (Convention Center) capacity: 284**590****Digital Video as a Tool to Enhance Mathematical Understanding and Reasoning****(PreK–5) Session**

This presentation will describe an action research project that used digital video effectively to enhance children’s numerical thinking and reasoning. Revisiting the edited clips of their own actions made these children immediately and explicitly aware of their abilities and served to trigger their growth.

Sudha Swaminathan

Eastern Connecticut State University, Willimantic, Connecticut

Patricia Gardner

Eastern Connecticut State University, Willimantic, Connecticut

149 A/B (Convention Center) capacity: 174**591****Helping Struggling Primary School Mathematicians Develop Metacognitive Strategies****(PreK–5) Session**

This presentation will highlight the findings of a teacher’s research project that explored ways to help struggling students solve problems proficiently. Introducing questioning, problem-solving steps, and schematic diagrams to struggling students helped these students develop metacognitive strategies to understand and solve problems successfully.

Tricia Ann O’Loughlin

Kennett Consolidated School District, Kennett Square, Pennsylvania

202 B (Convention Center) capacity: 418**592****Dedicated Advocate Devoted to Success for All Students (DADSS)****(PreK–5, Teacher of Teachers) Session**

Time, effort, and leadership are elements of instruction that DADSS can provide to benefit all students’ mathematical learning. This session will present creative methods for involving fathers in mathematics to encourage and increase academic achievement.

Tyrette Carter

North Carolina Agricultural and Technical State University, Greensboro, North Carolina

Loury Floyd

North Carolina Agricultural and Technical State University, Greensboro, North Carolina

140 A (Convention Center) capacity: 154

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593**Visual Learning: An Early Mathematics Imperative****(PreK–5, Teacher of Teachers) Session**

Research continues to support that visual learning strategies are effective teaching tools, and that they can help address issues of equity in mathematics education. This session will demonstrate how these strategies, and stories about math, can be used to motivate and engage students who are part of an increasingly visual society.

Stuart J. Murphy

Author, Boston, Massachusetts

152 B (Convention Center) capacity: 262**594****Reluctant Problem Solvers: What's a Teacher to Do?****(3–5) Session**

Teachers often face students who choose not to engage in the problem-solving process. Reluctant problem solvers pose a challenge to teachers as they work towards their instructional goals. The presenter will share strategies that engage reluctant problem solvers. Participants will engage in sample activities. Student work samples will be shared.

Angela Till Barlow

University of Mississippi, Oxford, Mississippi

204 C (Convention Center) capacity: 135**595****Teaching Fractions: Bridging the Gap between Concepts and Procedures with Ratio Tables****(3–5) Session**

Find out how several urban teachers collaborated to gain insights into how their students learn fractions. Take away classroom-tested activities that helped their lowest-achieving students succeed at, and even enjoy, adding and subtracting fractions with unlike denominators.

Bonnie Hole

Longfellow School, Bridgeport, Connecticut

Robert Schwartz

Longfellow School, Bridgeport, Connecticut

Renaissance West A (Renaissance) capacity: 162**596****Using Literature to Teach Measurement****(3–5, Teacher of Teachers) Session**

This session integrates mathematics and literacy and presents a series of interrelated lessons that uses high-quality and award-winning literature to teach linear measurement concepts, specifically measurement to the inch and fractional measurement.

William Paul Bintz

Kent State University, Kent, Ohio

Pam Wright

Paducah Public Schools, Paducah, Kentucky

Lyndsie Dempsey

Paducah Public Schools, Paducah, Kentucky

207 B (Convention Center) capacity: 426**597****Math with a Laugh: Count on It!****(3–8) Session**

This will be an interactive session filled with activities that participants can take back to their classrooms and use immediately—a great opportunity to lighten up, learn, laugh, and leave with loads of ideas.

Janet K. Scheer

Create A Vision, Foster City, California

Ballroom A (Convention Center) capacity: 1442**598****Mathematically Promising Students Need Differentiation, Too****(6–8) Session**

All students have the right to learn something new every day, even when the topic is familiar. Explore proven, brain-based teaching and learning strategies, discourse techniques, and rich problems that challenge and engage diverse students in discovering and creating “new” mathematics using algebraic and proportional reasoning.

Linda Jensen Sheffield

Northern Kentucky University (Emerita), Highland Heights, Kentucky

103 B (Convention Center) capacity: 164**599****Creating Greater Understanding of Fractions, Decimals, and Percents****(6–8) Session**

Students who understand the relationships among fractions, decimals, and percents create a strong foundation for middle school mathematics and beyond. Come learn some interactive and engaging activities designed to help students make the connections among fractions, decimals, and percents.

John T. Neral

Oakland Public Schools, Oakland, New Jersey

158 A/B (Convention Center) capacity: 137

600

Dividing Fractions: A Cognitive-Based Approach to Instruction and Assessment

(6–8) Session

Fractions division is an important skill related to algebraic reasoning. This session will describe and demonstrate an integrated instruction and assessment system to identify students' misconceptions related to fractions division and provide targeted and individualized instruction to support students' learning.

Leanne Ketterlin-Geller is the Director of Research Projects with Behavioral Research and Teaching at the University of Oregon, where she serves as the principal investigator for federally funded research projects that address issues relating to the measurement of academic achievement. Her interests focus on the development of effective assessment procedures in mathematics and valid decision-making systems for students with diverse needs in the general education curriculum through the integration of principles of universal design.

Leanne R. Ketterlin-Geller

University of Oregon, Eugene, Oregon

*Independence A (Hyatt) capacity: 800***601**

Basic Number-Theory Problem Solving: Primes, Factors, Euclid, Bases, and More

(6–8) Session

Basic number theory (primes, divisors, the Euclidean algorithm, and base numbers) has a vast selection of problems at the middle school level. A bonus is that most middle school students find number theory to be a lot of fun. The speaker will discuss several such problems and how to use number theory to teach important problem-solving skills.

David Patrick

Art of Problem Solving, Alpine, California

*Independence F/G (Hyatt) capacity: 120***602**

Bridging the Gap between Standards and the Teaching of Data Analysis and Probability in Middle Grades

(6–8) Session

This session will examine the American Statistical Association's Guidelines for Assessment and Instruction in Statistics Education (GAISE) and activities that support the teaching and learning of data analysis, probability, and statistics concepts.

Patrick Hopfensperger

University of Wisconsin—Milwaukee, Milwaukee, Wisconsin

*Wilson/Roosevelt (Hyatt) capacity: 88***603**

Problem Solving for All Students' Success

(6–8) Session

Look at a few interesting, engaging problems that promote critical thinking in *all* students. Engage in solving rich problems that will help students develop a deep understanding of mathematical concepts along with their abilities and skills in your classroom.

David John Brancamp

Nevada Mathematics Council, Reno, Nevada

Trudy Mitchell

Teachers Inspiring Problem Solving, San Diego, California

*Auditorium (Renaissance) capacity: 282***604**

Findings from Three Countries Regarding Prospective Teachers' Knowledge of Fraction Addition and Division

(6–8, Teacher of Teachers) Research Session

Prospective elementary school teachers in the United States, Northern Ireland, and South Africa have similar difficulties in understanding rational numbers. Participants will create and analyze fraction addition and division problems.

Rose Elaine Carbone

Clarion University, Clarion, Pennsylvania

*Meeting Room 12/13/14 (Renaissance) capacity: 90***605**

Inquiry in the Mathematics Classroom: The Relationship among Inquiry, Reasoning, and Proof

(6–12) Session

This session will present an overview of frameworks and recommendations related to the role of inquiry in the mathematics classroom. The relationship among inquiry, reasoning, and proof will be explored. Rubrics and continuums developed as part of an NSF-funded project will be discussed. Other classroom-based examples will be presented.

Karen J. Graham

University of New Hampshire, Durham, New Hampshire

Megan E. Paddack

University of New Hampshire, Durham, New Hampshire

Meeting Room 5 (Renaissance) capacity: 58

606

Multiplying and Dividing Polynomials Using Generic Rectangles and Long Division: It's Not Synthetic Anymore!

(6–12) Session

This session will look at the area model, and then use algebra tiles and the generic rectangle as a basis for multiplying, factoring, and then dividing polynomials. No more synthetic division: using a diamond pattern will help pull the numbers together.

Virginia Head

College Preparatory Mathematics, Grand Prairie, Texas

Renwick/Bulfinch (Hyatt) capacity: 72

607

The Digital Divide: Using Emerging Web 2.0 Technologies to Teach Math

(6–12, Higher Education) Session

Students today are digital “natives” and spend more time on the Internet than ever before. They come from diverse backgrounds, are enthralled with new technology, and consider themselves more tech-savvy than their teachers. This session will offer suggestions to use those qualities to enhance math by integrating Web 2.0 tools into your teaching.

Robin Rider

University of Washington Bothell, Bothell, Washington

Keri Marino

University of Washington Bothell, Bothell, Washington

Daniela Benedict

University of Washington Bothell, Bothell, Washington

Tammy Wright

University of Washington Bothell, Bothell, Washington

Constitution B (Hyatt) capacity: 196

608



Neighborhood Mathematics: Takin' It to the Streets

(9–12) Session

Benjamin Banneker Association presentation

A handheld Global Positioning System, pad of paper, and pencil are tools for urban learners mining the rich geocultural resources of their neighborhood streets. Connections between the classroom and neighborhood are more than just an entertaining way to teach students math: it is a way for students to give teachers a fresh view of the world.

Steven McIlrath

Austin Polytechnical Academy, Chicago, Illinois

147 B (Convention Center) capacity: 255

609

Strategies for Success: Equity and Access for Students in Algebra 1

(9–12) Session

TODOS: Mathematics for ALL presentation

Designed for secondary school mathematics educators and instructional specialists, this session will help teachers provide effective instruction to English language learners in Algebra 1. Participants will learn to meet the needs of students with differing levels of English proficiency through multiple strategies.

Roberto Castañeda

TODOS: Mathematics for ALL; Charles A. Dana Center, University of Texas at Austin, Austin, Texas

Joyce Polanco

TODOS: Mathematics for ALL; Charles A. Dana Center, University of Texas at Austin, Austin, Texas

Linda Shaub

TODOS: Mathematics for ALL; Charles A. Dana Center, University of Texas at Austin, Austin, Texas

209 B/C (Convention Center) capacity: 213

610

AP Statistics Lessons That You Cannot Live Without While Using Fathom

(9–12) Session

If you are looking for a more efficient way for students to understand influential points and outliers, summarize and assess knowledge of the central limit theorem for sampling distributions of proportions and means, and understand Type 1 and Type 2 errors and power, this is the session for you! Beginners, expert users of Fathom are welcome.

Beth Benzing

Wallingford/Swarthmore School District, Wallingford, Pennsylvania

Cabin John/Arlington (Hyatt) capacity: 88

611

The Amazing Pi Race

(9–12) Session

Celebrate Pi Day while promoting math for all. The Amazing Pi Race is a fun way to involve every math student in a contest based on the popular TV show, *The Amazing Race*. Take home passport score sheets, activities, and scoring matrices.

Alice E. Hahn

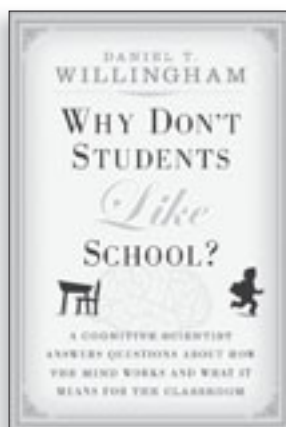
Eunice Public Schools, Eunice, New Mexico

Anna Burns

Eunice Public Schools, Eunice, New Mexico

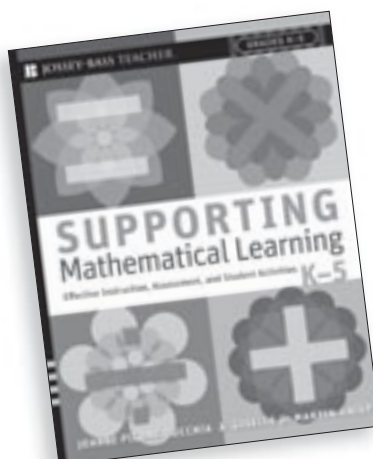
Congressional Hall A (Renaissance) capacity: 198

Math and the mind.



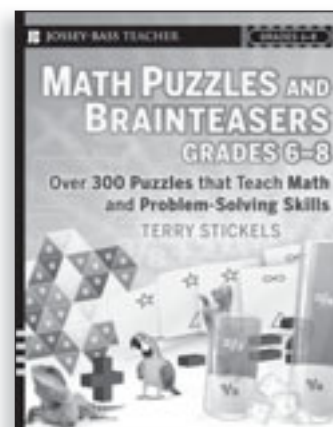
Practical answers to how the mind works.

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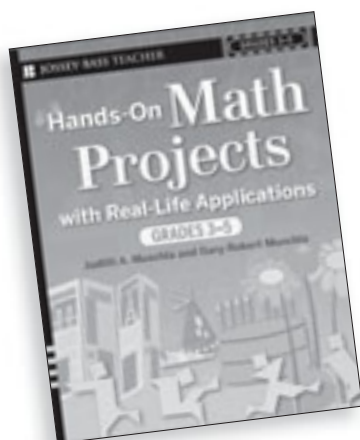
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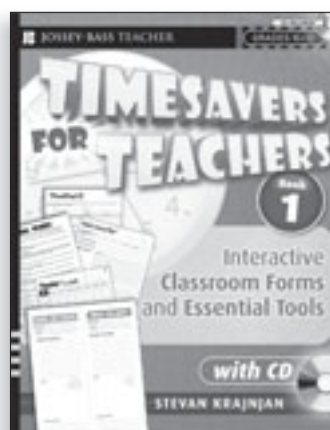
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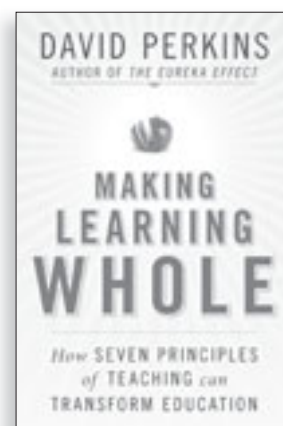
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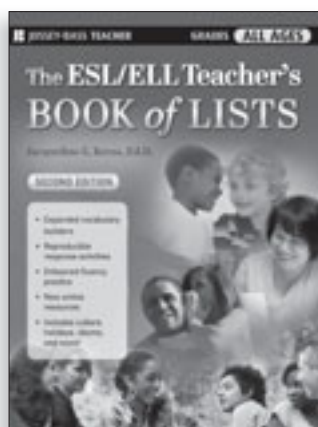
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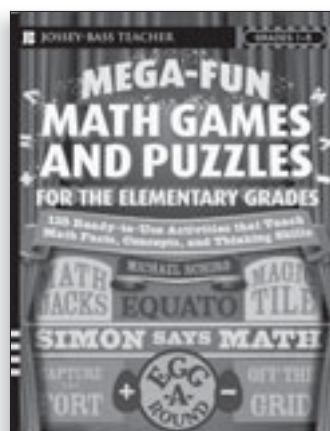
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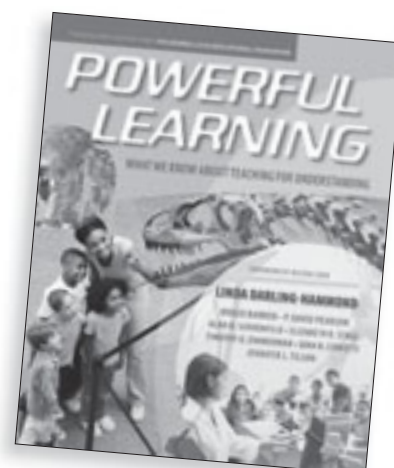
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612**From Story to Differential Equation (DE):
Making Sense of DEs in AP Calculus****(9–12) Session**

How do you move from given information to a differential equation? This session will focus on modeling and reading information from DEs and slope fields to understand and predict behavior in a variety of situations.

Ruth Dover

Illinois Mathematics and Science Academy, Aurora, Illinois

*Renaissance East (Renaissance) capacity: 320***613****The Mathematics of Crop Circles****(9–12) Session**

Center pivot irrigation has transformed the landscape in parts of the arid west, creating the giant, circular fields that you can see from an airplane. This session will examine the mathematics behind the patterns using technology including Google Earth, Excel, TI-NSpire, Casio Classpad, and Geometry Expressions.

Philip Todd

Saltire Software, Tigard, Oregon

*Renaissance West B (Renaissance) capacity: 162***614****Benjamin Banneker's Mathematics, in His
Own Handwriting****(9–12) Session**

Benjamin Banneker (1731–1806) was a self-taught, African American mathematician, scientist, astronomer, and surveyor who lived near Baltimore. Using his handwritten notes from his journal, participants will learn how his work can facilitate students' understanding of nonalgebraic ways of solving problems.

John F. Mahoney

Benjamin Banneker Academic High School, Washington, D.C.

*145 B (Convention Center) capacity: 278***615****Learning Linear Functions from Two
Different Curriculum Types****(9–12) Research Session**

The speakers will present results from a longitudinal study that evaluated high school students' mathematics learning after following two distinct curricula—two years of integrated mathematics and an algebra-geometry sequence. You will learn about results related to linear functions from the assessments administered in the first two years.

Oscar Chávez

University of Missouri—Columbia, Columbia, Missouri

Daniel James Ross

University of Missouri—Columbia, Columbia, Missouri

*146 A (Convention Center) capacity: 423***616****Accommodating All Learners in the College
Algebra Classroom through Differentiated
Instruction****(9–12, Higher Education) Session**

This session will discuss how to implement and use differentiated instruction to accommodate all learners in the college algebra classroom.

Valerie Louise Epps

Dillard University, New Orleans, Louisiana

*Grand Ballroom South (Renaissance) capacity: 430***617****How to Prepare Teachers for the Promise
and Challenges of the High School Math
ELL****(9–12, Teacher of Teachers) Session**

For English language learners (ELLs) at the high school level, traditional interventions that require considerable amounts of time are not feasible, but today's testing environment with emphasis on context-rich problems demands a coherent plan. Details will be shared of one district's implementation of specific strategies for this targeted group.

Warren Roane

Humble Independent School District, Humble, Texas

102 A (Convention Center) capacity: 144

**618**

Finding a Place for Mathematics Learning Disabilities in the Postsecondary World

(Higher Education) Session

After a brief history and overview of math learning disabilities (MLD), this session will lead groups through round-table discussions of manifestations of MLD and research-supported techniques used by sample institutions. Attendees will also be presented with case studies for discussion with their groups, using provided focus questions.

Debbie Gochenaur

Elizabethtown College, Elizabethtown, Pennsylvania

Amanda Golas

Elizabethtown College, Elizabethtown, Pennsylvania

Farragut Square (Hyatt) capacity: 72

619

A Double Discontinuity

(Teacher of Teachers) Session

When Felix Klein began to teach prospective teachers, he found what he called a “double discontinuity.” Undergraduates didn’t see connections to the school mathematics they had learned, and on becoming teachers, they didn’t see connections to university mathematics. A century later a similar problem exists. Can we learn from Klein’s experience?

Jeremy Kilpatrick

University of Georgia, Athens, Georgia

Ballroom B (Convention Center) capacity: 1440

Come, Connect, Communicate

Teaching as a Second Career

Meet with educators who share your interests to discuss how to improve teaching and learning related to teaching as a second career. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Room 304 C (Convention Center)

Come, Connect, Communicate

Grades PreK–2

Meet with educators who share your interests to discuss how to improve teaching and learning in grades pre-K–2. This networking opportunity provides a chance to network and establish relationships that can continue beyond the conference as a resource for your professional growth.

Meeting Room 2 (Renaissance)

Exhibitor Workshop 41

Singapore Math.com Inc.

What’s So Good about Singapore Math?

This session presents the pedagogical principles underpinning Singapore Math and provides hands-on practice in the problem solving strategies particularly model drawing, that are distinctive of Singapore Math. Participants will explore the principles of instructional design and try their hand at working out problem sums using Singapore Math strategies.

Room 143 A (Convention Center)

Exhibitor Workshop 42

Kinetic Books

Interactive Digital Texts Engage Students in Algebra

Use multiple forms of input to engage your students in algebra. Animations, audio, multiple self-assessment tools, and more are built into a comprehensive digital textbook that has successfully passed through, and been adopted by, California’s state textbook adoption.

Room 143 B (Convention Center)

Exhibitor Workshop 43

Annenberg Media

Bring Higher Math to Teachers and Students with Mathematics Illuminated

Learn cutting edge ideas of higher mathematics—like chaos theory—that undergird our technology-driven society. Come explore Mathematics Illuminated, a free multimedia course, to use on your own or with your students.

Room 143 C (Convention Center)

Exhibitor Workshop 44

Rhymes ‘n’ Times

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Research-based, multisensory program uses differentiated instruction. Sister products: Fishin’ for Addition, Subtraction in Action, Divide ‘n’ Slide. www.rhymesntimes.com

Room 144 A (Convention Center)



**620****Counting without Counting****(General Interest) Gallery Workshop**

Some cultures have taboos on counting, and others use unique number systems. Participants will explore ways to count without counting, examine number systems from a variety of cultures, and build their own number system. At all times, participants will learn about the cultures of those systems being studied.

Chadd McGlone

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Lawrence Shirley

Towson University, College of Graduate Studies and Research, Towson, Maryland

103 A (Convention Center) capacity: 232**621****Online Games That Motivate All Students****(General Interest) Gallery Workshop**

Both kids and teachers love the math games on the Illuminations Web site. Kids love the fun, and teachers love that students are learning. Come play games during this gallery workshop, and learn how to modify the games for use in your classroom. You'll delve into math concepts that emerge from these games, as well as uncover math that's not so obvious.

Patrick Vennebush

National Council of Teachers of Mathematics, Reston, Virginia

Dave Barnes

National Council of Teachers of Mathematics, Reston, Virginia

Meeting Room 8/9 (Renaissance) capacity: 60**622****Navigating through Discrete Mathematics in Grades PreK–2****(PreK–5) Gallery Workshop**

What does discrete mathematics look like in the early grades? This hands-on presentation will give all attendees a chance to learn topics in discrete mathematics by doing engaging activities designed for NCTM's Navigations series and to see how children respond to these activities.

Valerie A. DeBellis

Discrete Teaching, Greenville, North Carolina

Joseph G. Rosenstein

Rutgers University, New Brunswick, New Jersey

150 A (Convention Center) capacity: 226**623****Time to Measure All Year Long****(PreK–5) Gallery Workshop**

Try out measurement activities that will help make measurement real and relevant for primary school students throughout the school year. Create a beach towel for a favorite stuffed friend! Learning experiences emphasize how measurement is used by young children throughout the seasons.

Charlene Teresa Steadman

North Kansas City School District, Kansas City, Missouri

Elise Sabaski

North Kansas City School District, Kansas City, Missouri

202 A (Convention Center) capacity: 368**624****Professional Development Addressing Equity in Mathematics Education****(PreK–5, Teacher of Teachers) Gallery Workshop**

The presenters will share a variety of professional development activities that support teachers in addressing the needs of students from diverse backgrounds. Attendees will design professional development for their local context based on resources and examples from several professional development courses that integrated equity in mathematics.

Anita Wager

University of Wisconsin—Madison, Madison, Wisconsin

Mary Q. Foote

City University of New York—Queens College, New York, New York

Edd Taylor

Northwestern University, Chicago, Illinois

Congressional Hall B (Renaissance) capacity: 132**625****Lights, Camera, Fractions: Modeling for Conceptual Understanding and Computational Fluency****(3–5) Gallery Workshop**

Engage in hands-on activities that focus on enhancing students' conceptual understanding of addition and subtraction of fractions moving through concrete, semiconcrete, and abstract stages. See "snapshots" of students as they develop understanding and computational fluency.

DeAnna Moreau

Chesterfield County Public Schools, Chesterfield, Virginia


Vicki Bowers

Chesterfield County Public Schools, Chesterfield, Virginia

Kelly Laughlin

Chesterfield County Public Schools, Chesterfield, Virginia

144 B (Convention Center) capacity: 96



Who knew 20
paper plates
could change
the world?

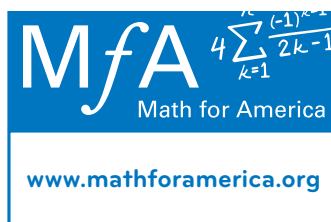
MELANIE SMITH, 2005 MfA FELLOW,
MANHATTAN VILLAGE ACADEMY

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626

Let's Talk about Geometry! Discourse, Problem Solving, and Questioning in the Elementary School Classroom

(3–5) Gallery Workshop

Good questioning and good listening skills will empower children to make sense of mathematics while encouraging mathematical thinking and communication. Participants will explore mathematical discourse within the contexts of geometry and problem solving and walk away with ideas and problems that can be used immediately.

Susan Kutt

Anne Moncure Elementary School, Stafford, Virginia

145 A (Convention Center) capacity: 244

627

Formulas Formulated by Students: A Conceptual Approach of Teaching Measurement

(3–5) Gallery Workshop

Build your students' conceptual understanding of measurement by participating in hands-on learning experiences with multiple entry-level activities, to develop common formulas for 2-D and 3-D shapes and solids. The presenters will share differentiation and assessment ideas. Participants will receive handouts.

Tong Yu

Cincinnati Public Schools, Cincinnati, Ohio

Tania Relyea

Cincinnati Public Schools, Cincinnati, Ohio

159 A/B (Convention Center) capacity: 109

628

Shape Up for Geometry!

(3–5) Gallery Workshop

Explore characteristics of two-dimensional shapes using children's literature. Challenge yourself to think about relationship among shapes and their areas and perimeters. Walk away from this gallery workshop with a deeper understanding of the geometry you teach and activities you can use with your students.

Dicky Noto Afiah Ng

Boston University, Boston, Massachusetts

206 (Convention Center) capacity: 323

629

Using Manipulatives to Develop the Concepts behind Computation to Improve Problem Solving

(3–5, Teacher of Teachers) Gallery Workshop

Students need to understand the “whys” and “hows” behind operating with whole numbers, fractions, and decimals. This session will use the “hands-on standards” approach in getting to the meaning behind computation so students can better understand the mathematics they are being asked to learn.

Kathleen Rieke

Metropolitan School District of Washington Township, Indianapolis, Indiana

151 A (Convention Center) capacity: 291

630

Integrating the Day with Chocolate

(3–8) Gallery Workshop

Enjoy a theme presentation with chocolate while integrating mathematics (probability and statistics), life science (life cycle of the cocoa bean), social studies (geography, cultures, and industry), English (creative writing prompts, literature, and research writing), and art.

Lymeda Singleton

Texas A&M University at Commerce, Commerce, Texas

152 A (Convention Center) capacity: 226

631

Numeracy Games: I Have ...; Who Has ...? (and More)

(3–8) Gallery Workshop

Come prepared to play various games such as loops, tic-tac-toes, scavenger hunts, and others. These games help promote numeracy, mental mathematics, communication, and most important, fun for your students as they learn basic facts from early numeracy to algebra and geometry. Handouts will be provided.

Karen Moore

Eastern School District, St. John's, Newfoundland and Labrador, Canada

Norma Barron

Eastern School District, St. John's, Newfoundland and Labrador, Canada

Grand Ballroom Central (Renaissance) capacity: 337

632**Words, Words, Words: Coming to Terms with Vocabulary Instruction****(3–12) Gallery Workshop**

Having kids copy definitions from the glossary not working for you? Research indicates that a knowledge of important terms is crucial to understanding any subject. This presentation will feature a research-based instructional strategy for building academic vocabulary. Participate in games that you can use in your math class.

Cynthia S. Cuellar

Milwaukee Public Schools, Milwaukee, Wisconsin

Rosann Hollinger

Milwaukee Public Schools, Milwaukee, Wisconsin

Sharonda Monae Harris

Milwaukee Public Schools, Milwaukee, Wisconsin

147 A (Convention Center) capacity: 243

633**Rational-Number Aerobics****(6–8) Gallery Workshop**

“Stretch” your students’ understanding of rational numbers, help them become more “flexible” in using fraction, decimal, and percent representations, and “exercise” their use of models. Participants will experience a variety of engaging rational number “workouts” designed for use in the Missouri Middle School Mathematics Leadership Academy.

Emily Combs

Clinton, Missouri Schools, Clinton, Missouri

Joann Barnett

Ozark, Missouri Schools, Ozark, Missouri

Ann McCoy

University of Central Missouri, Warrensburg, Missouri

Melody Ollison

University of Central Missouri, Warrensburg, Missouri

Ashley Burns

Missouri State University, Springfield, Missouri

Constitution A (Hyatt) capacity: 180

634**Making Mathematical Connections Using Real-World Applications****(6–8, Teacher of Teachers) Gallery Workshop**

This gallery workshop provides collaborative, interactive experiences related to forensics, meteorology, personal fitness, nutrition, literature, and poetry to help students make connections between “school math” and their everyday lives. Suggestions for journal questions and Web sites will be available.

Hope Martin

ActiveMath Workshops, Buffalo Grove, Illinois

Independence D/E (Hyatt) capacity: 95

635**Scaffolding Students’ Development of Dynamic Spreadsheets as a Mathematics Learning Tool****(6–12) Gallery Workshop**

Explore how you can design algebra and prealgebra to focus on extending mathematics problems while also helping students gain skills in designing dependable and dynamic spreadsheets as a tool for learning mathematics.

Margaret Niess

Oregon State University, Corvallis, Oregon

Grand Ballroom North (Renaissance) capacity: 298

636**The Geometer’s Sketchpad®: A Tool for All Kids****(6–12) Gallery Workshop**

Bring your laptop (with battery power) to this presentation to discover how to use The Geometer’s Sketchpad to help all gain a deeper understanding of elementary algebra and Euclidean geometry. Use the power of this dynamic software to explore and discover properties from elementary algebra and even into precalculus.

Arthur T. Mabbott

Seattle Schools, Seattle, Washington

207 A (Convention Center) capacity: 339

637**Teaming to Support Lower-Attaining Students in Accessing Algebra****(6–12) Gallery Workshop**

Much can be learned when a high school mathematics teacher and a special education teacher combine their classrooms to teach algebra. Through the use of video and the lenses of both teachers and a math education researcher, the presenters will explore the approaches taken to enable all students to have access to algebra.

Sandie Gilliam

Colorado College, Colorado Springs, Colorado

Megan Staples

University of Connecticut, Storrs, Connecticut

Jennifer Lahey

San Lorenzo Valley Unified School District, Felton, California

Constitution C/D/E (Hyatt) capacity: 200

638**Racing, Tossing, and Dissolving Beef Cubes: Is This Math?****(6–12) Gallery Workshop**

Explore some misconceptions about teaching slope and how you can make slope interesting and meaningful to your students. These activities are specifically designed to develop understanding of slope and the equation of a line conceptually. Be engaged, be excited, and be confident. Come join us as we discover “Where’s the beef” and much more.

Levi J. Patrick

University of Oklahoma, Norman, Oklahoma

*Independence B/C (Hyatt) capacity: 95***639****Using Geoboards in the Secondary School Mathematics Classroom****(6–12) Gallery Workshop**

Geoboards *can* be used in middle and high school math classes! This activity-based workshop will investigate topics such as area of polygons, Pick’s theorem, and the geometry of the circle using geoboards. A demonstration of virtual geoboards will also be presented.

Barbara A. Burns

Canisius College, Buffalo, New York

Gail Butler

Erie Community College, Buffalo, New York

*Independence H/I (Hyatt) capacity: 95***640****Doing the Right Things Right in Mathematics: Creating an Environment for All Learners****(6–12) Gallery Workshop**

High-quality math instruction calls for teachers who understand content, incorporate research-informed instructional strategies, and connect with students. This presentation will investigate strategies that engage students while increasing accountability, developing higher order thinking skills, and promoting productive habits of mind.

Kathleen Dempsey

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

*204 A/B (Convention Center) capacity: 227***641****Building Lessons for All Students****(6–12) Gallery Workshop**

Are all your students the same? Never! Learn to develop lessons to meet the needs of the full range of students in a class. Work on strategies in all aspects of lesson development including questions, activities, assignments, technology, and assessment. Start developing strategies you can use to get everyone engaged and learning math.

Edward Nolan

Albert Einstein High School, Kensington, Maryland

*152 A (Convention Center) capacity: 226***642****How Experiencing Authentic Mathematical Discovery Can Help All Students Feel Successful at Mathematics****(9–12) Gallery Workshop**

The speakers describe activities they’ve used with high school students to help them experience authentic mathematical discovery. These activities, involving graph theory, non-Euclidean geometry, and voting theory, are engaging, accessible, and fertile. Students who do not see themselves as mathematically inclined are most likely to benefit.

Darryl H. Yong

Harvey Mudd College, Claremont, California

Pam Mason

Math for America—Los Angeles, Los Angeles, California

*140 B (Convention Center) capacity: 125***643****Investigations That Improve Students’ Understanding of Limits and Derivatives****(9–12, Higher Education) Gallery Workshop**

This presentation will share several investigations the presenter has used in the classroom to help strengthen students’ understanding of limits and derivatives. Explore some ideas for developing these investigations, and take home reproducible copies to use in your classes. All levels of teaching experience are welcome.

Ken M. Collins

Charlotte Latin School, Charlotte, North Carolina

208 A/B (Convention Center) capacity: 95

**644**

Teaching Math to English Learners: The Secret Is Comprehensible Input

(Teacher of Teachers) Gallery Workshop

TODOS: Mathematics for ALL presentation

This gallery workshop will present strategies for making math instruction comprehensible to English learners and model how to implement these strategies by having attendees participate in a lesson taught completely in a foreign language, thus demonstrating how one can make instruction comprehensible even for students who speak no English.

Elmano Costa

TODOS Mathematics for ALL; California State University, Stanislaus, Turlock, California

102 B (Convention Center) capacity: 204

645

Helping Teachers Work toward a Coherent Mathematics Curriculum

(Teacher of Teachers) Gallery Workshop

NCTM and others urge us to strive toward curriculum “coherence.” Experience part of a professional development process for mathematics coaches and teachers to study students’ data, identify Focal Points and content areas to improve students’ performance, and develop a plan to help meet the goal of a more coherent and strategic math curriculum.

Kathleen M. Browne

Rider University, Lawrenceville, New Jersey

Christine Burton

Montgomery Township School District, Montgomery, New Jersey

Anne Catena

Princeton University, Princeton, New Jersey

101 (Convention Center) capacity: 170

646

Developing Primary School Problem Solvers: A Way of Teaching

(PreK–2) Session

Participants will explore interesting problems and strategies to develop lifelong problem solvers who enjoy the challenge of problem solving. Learn how to make every day an opportunity to facilitate problem-based learning through concrete and engaging activities!

Beth McCord Kobett

Villa Julie College, Eldersburg, Maryland

Kay Sammons

Howard County Public Schools, Ellicott City, Maryland

102 A (Convention Center) capacity: 144

647

Serving Up Recipe Math to Motivate All Learners

(PreK–2) Session

Participants will learn to integrate mathematical topics into snack time by using hands-on, kid tested, recipes for healthy snacks. Truly an integrated approach, these recipes use literature to address the math skills of place value, number sense, fractions, measurement, and sequencing. Come build a repertoire of hands-on math strategies.

Cindy Cliche

Middle Tennessee State University Campus School, Murfreesboro, Tennessee

150 B (Convention Center) capacity: 248

648

Partner Games to Develop Number Concepts and Math Language for All

(PreK–2) Session

Experience standards-based games that use visual models to provide math to see and talk about. Help young children reason and reflect on number relationships, master facts, and use academic language in class, in tutorials, after school, and at home.

Janet Gillespie

Great Source Education Group, Wilmington, Massachusetts

207 B (Convention Center) capacity: 426

NCTM **649**

What I Need to Know Is ...

(PreK–5) Session

Successful early-career and experienced elementary school teachers will answer your questions and provide insights into all aspects of being a teacher and teaching math. Ask questions at the session or ahead of time at www.nctm.org/facebook.

Jeanine Brizendine

Church Hill Elementary School, Church Hill, Maryland

Susan Vohrer

Baltimore County Public Schools, Baltimore, Maryland

Beth Skipper

National Council of Teachers of Mathematics, Reston, Virginia

146 C (Convention Center) capacity: 414

**650****Games, Kits, and Content: Unique Ways to Engage Parents in the Urban Mathematics Classroom****(PreK–5) Session**

This session will focus on how games, at-home tool kits, and content-based parent sessions can foster mathematical communities that reach outside school. Participants will learn how games can help at home, how to use manipulative kits to bridge the home-school connection, and how working with parents can affect students' achievement.

Zachary M. Champagne

Mandarin Oaks Elementary School, Jacksonville, Florida

Timothy Kenney

Mandarin Oaks Elementary School, Jacksonville, Florida

151 B (Convention Center) capacity: 284**651****I Didn't Know They Knew That! Now What? Linking Formative Assessment to Early Math Instruction****(PreK–5) Session**

Flexible assessment methods can reveal the reasoning that underlies grades K–3 students' math performance. This information should then be used to guide instruction. This is the process of formative assessment. Learn to use flexible assessments, and to use the results to identify specific instructional strategies that promote understanding.

Sandra Pappas

Teachers College, Columbia University, New York, New York

Herbert Ginsburg

Teachers College, Columbia University, New York, New York

156 (Convention Center) capacity: 156**652****Let's Get Vertical with Number Sense!****(PreK–8) Session**

Number sense is crucial to students' success in mathematics. What do students know? Where do they need to go? How can I measure growth? How can I reach all my students? Listen to how one school used vertical (grades K–8) learning communities to align number sense and meet the needs of all.

Jamie Robarge

Pendergast Elementary School District, Phoenix, Arizona

Jamie Bolster-Beecham

Pendergast Elementary School District, Phoenix, Arizona

Jennifer Fletcher

Pendergast Elementary School District, Phoenix, Arizona

Autumn Castillo

Pendergast Elementary School District, Phoenix, Arizona

Roseanna Chavez Gonzales

Canyon Breeze Elementary School, Avondale, Arizona

Ericka Daniel

Pendergast Elementary School District, Phoenix, Arizona

158 A/B (Convention Center) capacity: 137**653****A Journey Into Algebraic Thinking for All Students, Grades 3–5****(3–5) Session**

Lay a foundation for algebraic thinking through exploration of patterns and generalized relationships in arithmetic and geometric sequences. See how *all* students can be successful in using these patterns to solve problems.

Sandy Berg

Saint Anthony/New Brighton Schools, Saint Anthony Village, Minnesota

152 B (Convention Center) capacity: 262**654****How to Create and Use Problem-Solving Math Stations to Differentiate in the Classroom****(3–8) Session**

Problem-solving math stations in a curriculum will help students work on all skill areas at their own pace. Stations are designed with differentiated activities. One station in particular that teachers will learn about is called The Travel Game. This session will provide teachers with many materials to help them differentiate activities.

Jennifer Carin Brown

The Hewitt School, New York, New York

103 B (Convention Center) capacity: 164**655****Creating a Classroom Culture for Communicating Mathematical Thinking****(3–8) Session**

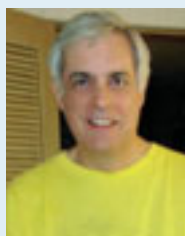
Experience a structured approach to creating a classroom culture that supports students in communicating mathematical thinking. Participants will be actively engaged with math content while exploring routines that support talking, writing, and representing ideas about mathematics. Leave with a plan for the first weeks of school.

Lois A. Lucas

Fairfax County Public Schools, Alexandria, Virginia

147 B (Convention Center) capacity: 255

656



The Missing Ingredients in Mathematics Teaching: Language and Cognition (3–8) Session

Experience an approach to teaching mathematics that integrates reading comprehension strategies with the five process standards of mathematics by using principles from cognitive psychology. Teachers of math have found the approach to be highly effective in building conceptual understanding.

Arthur Hyde has long been a student of cognitive psychology, mathematics (pure and applied), and math teaching and learning. He taught high school mathematics in the Philadelphia Public Schools using his knowledge base to investigate innovative ways to help all his students build progressively deeper understanding of math concepts. One of the founders of the Best Practice Network in Chicago, he has conducted extensive professional development projects on mathematics teaching in Chicago public schools and in the suburbs. Hyde is currently a professor of mathematics education at National Louis University.

Arthur Hyde

National Louis University, Chicago, Illinois

Ballroom A (Convention Center) capacity: 1442

657

Transforming a Checkerboard with Slides, Flips, and Turns

(3–8, Teacher of Teachers) Session

Illustrate the translation, reflection, and rotation of figures on a plane by sliding, flipping, and turning clusters of checkers on a checkerboard. Also, see how you can track the transformation of a figure into its image by identifying the cell address of each checker in the beginning and ending clusters.

Denise LePage

East Stroudsburg University, East Stroudsburg, Pennsylvania

209 A (Convention Center) capacity: 107

**Don't miss the
Closing Session on
Saturday afternoon
with featured speaker
Ron Clark**

658

Using the Legacy of Matthew Henson to Inspire Learning in African American Children

(3–12) Session

Benjamin Banneker Association presentation

Enhance curriculum with projects based on the mathematical and scientific exploration work of Matthew Henson, the twentieth-century African American explorer. Expand students' problem-solving and leadership skills, express individuality, and integrate mathematics, science, and geography.

Jacob Morris

Benjamin Banneker Association, Inc., New York, New York

Marilyn Anita Evans

President, Women and Mathematics Education, Houston, Texas

Independence A (Hyatt) capacity: 800

659

Highlights from the History of Number Theory

(6–8) Session

Are you a middle school mathematics teacher looking for ways to incorporate history into your lessons? From Pythagoras to Ramanujan, explore highlights from the history of number theory that will spark your students' imaginations.

Marian C. Fox

Kennesaw State University, Kennesaw, Georgia

140 A (Convention Center) capacity: 154

660

Creating and Employing Effective Interactive Classroom Experiences and Activities

(6–8) Session

Ideas and suggestions will be shared for developing and using effective interactive materials and methods so students can better experience the dynamics of mathematics through an emphasis on action and change. Topics will include number sense, especially with fractions, algebra, and geometry.

Evan M. Maletsky

Montclair State University, Montclair, New Jersey

145 B (Convention Center) capacity: 278

**661****Movies and Culture: Promoting Equity in the Middle Grades Mathematics Classroom****(6–8) Session**

Classic and current movies enable teachers to bring culture into the mathematics classroom. Come explore investigations specifically designed to weave media, culture, and mathematics. Exemplars will highlight media resources from African American, Hispanic, Asian, and Native American cultures.

Michael F. Chappell

Middle Tennessee State University, Murfreesboro, Tennessee

Denisse R. Thompson

University of South Florida, Tampa, Florida

Auditorium (Renaissance) capacity: 282**662****Building a Mathematical Culture Using Active Participation while Enriching, Encouraging and Engaging All Learners****(6–8) Session**

Go above and beyond while engaging all learners when you use effective, researched-based strategies and activities. This presentation will provide all participants with a toolbox of direct, hands-on experiences that promise to eliminate that dreaded phrase “This is boring!” Developing a culture of active learning promotes more successful students.

Thomas Dean Lewis

Hanover County Public Schools, Mechanicsville, Virginia

*Renaissance West A (Renaissance) capacity: 162***663****Chances Are: Exploring Probability with Pascal’s Triangle****(6–12) Session**

One of the most interesting number patterns known is Pascal’s triangle. Although the triangle is relatively simple to generate, it contains a complex depth of numerical patterns, applicable to the physical world and beyond. Participants will explore the patterns of Pascal’s triangle and its application to probability theory.

Barbara Perez

Cypress Bay High School, Weston, Florida

*203 A/B (Convention Center) capacity: 150***664****Dynamic Models of Equations and Operations Using Sketchpad®****(6–12) Session**

Come discover the full range of middle school mathematics content explorable in Sketchpad’s dynamic environment: animations to connect slopes with rates; dynamic number lines and algebras to investigate properties of operations and exponents; function machines, balances, and other models of equations and inequalities; dynagraphs; and more! Bring a laptop with battery power.

Andres Marti

Key Curriculum Press, Emeryville, California

Constitution B (Hyatt) capacity: 196**665****Art, Culture, and Social Justice Meet in a High School Geometry Course****(6–12) Session**

Can you open your eyes to math connections in the world around you? Can you build a curriculum based on this vision? Can you include service learning in your class? Gain ideas from one teacher’s journey with her gifted students as they explored diversity around them, from Sketchpad and sewing machines to an Indian reservation and back home.

Mary Paulson

East High School, Madison, Wisconsin

*Congressional Hall A (Renaissance) capacity: 198***666****See Past the Symbols: Visual Thinking Activities about Variables and Functions****(6–12) Session**

Students often try to memorize algebraic formulas without any sense of what the symbols really mean. Visual models and representations of equations, functions, and variables can unlock crucial understanding that students often miss. Here are some exercises, strategies, and suggestions for getting students to see the meaning behind the symbols.

Loring (Terry) Coes

Rocky Hill School, East Greenwich, Rhode Island

Farragut Square (Hyatt) capacity: 72

667

An Algebraic “Whack on the Side of the Head”**(6–12) Session**

2B or not 2B? Is algebra the question? What would “algebra for all” mean, and how can we achieve it? Take a humorous and thought-provoking look at some misconceptions the public (and sometimes we) can have and focus on how we can work toward making “algebra for all” a reality at all grade levels.

Larry Campbell

Missouri State University, Springfield, Missouri

Renaissance East (Renaissance) capacity: 320

668

How Can Education Meet the Quantitative Reasoning Demands of Twenty-first-Century America?**(6–12, Higher Education) Session**

How important is quantitative literacy (QL) in twenty-first-century America? How have the demands for QL changed, and what are the causes? How can we educate better for QL? How can we assess developmental progress toward QL? These crucial questions will be expanded and possible answers suggested.

Bernard L. Madison

University of Arkansas, Fayetteville, Arkansas

149 A/B (Convention Center) capacity: 174

669

Calculus for Kids: Introducing the Two Fundamental Concepts to Middle School Students**(6–12, Higher Education, Teacher of Teachers) Session**

Contrary to popular opinion, middle school students can learn the two fundamental concepts of calculus. The presenters designed hands-on activities that provide young students with an introduction to the ideas of instantaneous rate of change (differentiation) and area under a curve (integration).

Chia-ling Lin

Nassau Community College, Garden City, New York

Emad Alfar

Nassau Community College, Garden City, New York

Daniel Ness

Dowling College, Oakdale, New York

Meeting Room 5 (Renaissance) capacity: 58

670

Equality Plus Depth: Asian, Content-Focused Strategies for U.S. Sixth to Twelfth Graders**(6–12, Teacher of Teachers) Session**

Asian mathematics teachers use content-focused strategies, which deepen students' knowledge. In this session, learn how to teach higher-level mathematics content knowledge in grades 6–12, student-centered math instruction and maintain students' interest as well. The speaker will show differential strategies used in real U.S. math classrooms.

Hsueh-I (Martin) Lo

Saint Cloud State University, Saint Cloud, Minnesota

Lafayette Park (Hyatt) capacity: 78

FRIDAY

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Marc Van Barel, and
Nicola Mastronardi**

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671

Using Research to Support the Mathematics Learning of English Language Learners

(6–12, Teacher of Teachers) Session

Research insights on the mathematics instruction for English language learners will be shared. Several important findings based on research across multiple disciplines will be discussed that can inform mathematics educators on how to better support this growing and underserved group of students.

Jenny Tahirih Sealy

TODOS: Mathematics for ALL; University of Michigan, Ann Arbor, Michigan

146 A (Convention Center) capacity: 423

672

Kentucky's Algebra 1 and Geometry End-of-Course Assessments

(9–12) Session

Presenters will describe the process for developing Algebra 1 and geometry end-of-course assessments for Kentucky high school students, share sample items, and discuss crucial issues surrounding the development and use of the assessments that were created by mathematicians, mathematics educators, high school teachers, and mathematics supervisors.

William S. Bush

University of Louisville, Louisville, Kentucky

Wanda Weidemann

Western Kentucky University, Bowling Green, Kentucky

204 C (Convention Center) capacity: 135



673

ExcELLEnce in Mathematics: Equity for English Language Learners (ELLs)

(9–12) Session

TODOS: Mathematics for ALL presentation

This session addresses the unique challenges of working with ELLs in mathematics. Concrete methods of teaching and classroom-ready, hands-on activities will be presented. Assessment and preparation for state-mandated testing will also be addressed.

Sharon Bryant Hoffert

TODOS: Mathematics for ALL, Richmond, Virginia

Ballroom C (Convention Center) capacity: 1442

674

The Mathematics and Science of DUI: A Highly Motivating Application of Algebra, Probability, and Staggering Statistics

(9–12) Session

Spanning biology, physics, chemistry, and driver's education, this session covers percent, mass, weighted average, best-fit line, inequalities, exponential functions, extrapolation, relative probability, box plots, motion, force, and impulse.

Bente B. Winston

Sussex School, Missoula, Montana

Matt Zunker

Sussex School, Missoula, Montana

Grand Ballroom South (Renaissance) capacity: 430

675

Analyzing Data with Excel

(9–12) Session

Excel spreadsheets can be used to calculate statistics and present data. This session is an introduction to statistical commands that can be used to calculate the center and spread of data as well as produce graphs of the data. Audience members are encouraged to participate on their own laptop computers (with battery power).

Keith M. Dreiling

Fort Hays State University, Hays, Kansas

Independence F/G (Hyatt) capacity: 120

676

Angling in on Access for All by Solving Geometry Problems from Multiple Angles

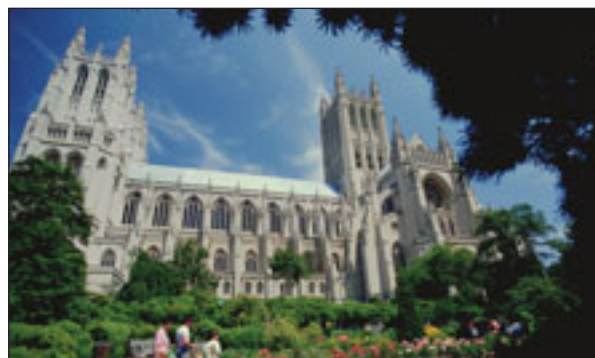
(9–12) Session

Too often we miss the opportunity to explore connections between topics in our mathematics classes. This presentation will start with the midsegment theorem and pursue numerous extensions. There is something for everyone here—paper folding, coordinate geometry, transformations, iteration, and geometry software.

Laurie E. Bass

Ethical Culture Fieldston School, Bronx, New York; Prentice Hall, Bronx, New York

Wilson/Roosevelt (Hyatt) capacity: 88



677

Why Don't They Get It? How Can We Help? Overcoming Barriers to Understanding Derivatives

(9–12, Higher Education) Session

Anyone who has taught calculus can attest to the difficulties learners face in mastering differentiation. Participants will actively identify and develop strategies for overcoming crucial barriers to developing a sophisticated understanding of derivatives. Participants will work collaboratively to analyze varied samples of students' work.

Brittany Michelle Booton

Illinois Institute of Technology, Chicago, Illinois

Kimberly Fluet

Illinois Institute of Technology, Chicago, Illinois

Cabin John/Arlington (Hyatt) capacity: 88

678

What's Happening Internationally with Technology in Mathematics?

(9–12, Teacher of Teachers) Session

What are the latest developments in technology in mathematics education around the world? Several of the NCTM/NSF travel grant awardees will share their experiences and views about current technological issues in mathematics as presented at the 11th International Congress on Mathematics Education, July of 2008.

Natalie Jakucyn

Glenbrook South High School, Glenview, Illinois

Steven Blasberg

West Valley College, San Jose, California

John F. Mahoney

Benjamin Banneker Academic High School, Washington, D.C.

Marilyn Mays

North Lake College, Irving, Texas

209 B/C (Convention Center) capacity: 213

679

Mathematics Anxiety, Technology, and College Algebra

(Higher Education) Research Session

The presenter will discuss math anxiety and report on results of a study examining math anxiety of students enrolled in a college algebra course that uses technology as a primary part of course delivery. The session will conclude with audience discussion.

DesLey V. Plaisance

Nicholls State University, Thibodaux, Louisiana

Meeting Room 12/13/14 (Renaissance) capacity: 90

680

Working toward Equitable and Productive Discourse Practices

(Higher Education, Teacher of Teachers) Session

Mathematics teachers often find orchestrating classroom discourse difficult and complex. In this session, the presenters share how teacher education experiences focused on classroom discourse can help work toward equitable and productive classroom communication.

Beth A. Herbel-Eisenmann

Michigan State University, East Lansing, Michigan

Michelle Cirillo

Iowa State University, Ames, Iowa

Renaissance West B (Renaissance) capacity: 162

681

Engaging Preservice Grades K–8 Teachers in Mathematical Explorations

(Higher Education, Teacher of Teachers) Session

During this session, mathematics educators and mathematicians will discuss the methods used in content courses for grades K–8 teachers. The panel will focus on research-based methods that work with students. Ideas shared will include the sequencing of concepts, content explorations, and materials used.

Frank Pullano

Winthrop University, Rock Hill, South Carolina

Beth Greene Costner

Winthrop University, Rock Hill, South Carolina

Emlee Nicholson

Winthrop University, Rock Hill, South Carolina

Renwick/Bulfinch (Hyatt) capacity: 72

682

Making The Most of Games: Developing Mathematical Reasoning and Forming Assessment

(Teacher of Teachers) Session

Participants will explore components of formative assessment and differentiating instruction while viewing video clips of students playing games that develop mathematical reasoning. They will examine questions to probe students' understanding and examine ways to use students' responses to develop formative assessment and differentiate instruction.

Fanya Morton

Stafford County Public Schools, Stafford, Virginia

144 C (Convention Center) capacity: 156

3:30 p.m.–4:30 p.m.

683

No Common Denominator: The Preparation of Elementary School Teachers in Mathematics

(Teacher of Teachers) Session

American students' chronically poor performance in mathematics on international tests may stem from the weak knowledge of mathematics of their elementary teachers. In a representative sampling of elementary teacher preparation programs in nearly every state, few were found to cover the mathematics content that elementary teachers need.

Julie R. Greenberg

National Council on Teacher Quality, Washington, D.C.

202 B (Convention Center) capacity: 418

3:30 p.m.–5:00 p.m.

684



Coherence, Connections, and Communication, and Fraction Sense

(3–8) Session

What about fractions? What do we mean by fraction sense? What is it about these a/b , 0.007, and 2% kinds of numbers?

This session will examine issues about learning fractions, decimals, and percent and consider issues around curricular coherence and the processes of connection and communications.

Francis (Skip) Fennell

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

Ballroom B (Convention Center) capacity: 1440

4:00 p.m.–5:00 p.m.

Exhibitor Workshop 45

It's About Time

Aim for Algebra: Not Business As Usual

Learn about an engaging algebra intervention program that supports students over common barriers to success in algebra. Aim for Algebra is a conceptually based, standards-aligned, supplementary program organized in a modular format that allows easy implementation, flexible programming, and individualized placement of students. Presented by Mardi Gayle

Room 143 A (Convention Center)

Exhibitor Workshop 46

ICT4U

Learn to Use Excel to Enhance the Learning of Mathematics

Participants will see how spreadsheets can enhance the learning of mathematics. The easy-to-use student workbook and CD ROM will be demonstrated showing how spreadsheet skills are explicitly taught in a self paced, independent, motivated, learning environment.

Room 143 B (Convention Center)

4:45 p.m.–5:30 p.m.

NCTM 685

New Teacher Celebration!

(General Interest) Session

Celebrate the progress and possibilities. We are looking for all new and early-career teachers and students working to enter this exciting profession. Learn a little, laugh more, and win wonderful prizes. Come celebrate with us. You are the future.

James M. Rubillo

Executive Director, National Council of Teachers of Mathematics, Reston, Virginia

146 C (Convention Center) capacity: 414



Saturday Planner

8:00	If You Are Standing Still, You Are Falling Behind! Embracing Change in Standards-Based Mathematics Instruction (Session 706)
8:30	
9:00	
9:30	Diverse Voices: Moving Forward Together! (Session 727)
10:00	
10:30	
11:00	
11:30	
12:00	Exhibit Hall and NCTM Bookstore Close
12:30	
1:00	
1:30	
2:00	
2:30	Closing Session: Teaching through Adversity: Facing Challenges and Making a Difference (Session 828)
3:00	



Focus of the Year



NCTM Committee
Presentation

Registration Hours

7:00 a.m.–10:00 a.m.
East Registration
(Convention Center)

Exhibit Hours

9:00 a.m.–12:00 noon
Exhibit Hall D & E
(Convention Center)

Bookstore Hours

8:30 a.m.–12:00 noon
West Registration
(Convention Center)

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.

**686****Why We Are Not Serious about Equity in High School Mathematics****(General Interest) Session**

Thirty to 70 percent of ninth-grade students are not graduating from our largest school systems. The reason most cited by these students for dropping out is their inability to pass the required mathematics courses or tests. We must change what we are doing to enable these students to be successful, or there can be no equity.

William Hadley

Hadley Consulting, Pittsburgh, Pennsylvania

149 A/B (Convention Center) capacity: 174**687****Integrating Multicultural Children's Literature into Grades K–2 Mathematics****(PreK–2, Higher Education, Teacher of Teachers) Session**

Schools and communities are becoming more culturally diverse. A collection of multicultural literature will be shared. This session will demonstrate how this literature can be used to provide meaningful, multicultural mathematics. Teachers will be engaged in hands-on activities and experience finding the math in multicultural children's literature.

Beverly Johns Vick

Alexandria Public Schools, Alexandria, Virginia

Nancy L. Smith

Emporia State University, Emporia, Kansas

151 B (Convention Center) capacity: 284**688****Heads, Shoulders, Knees, and Toes!****(PreK–2, Teacher of Teachers) Session**

In this session you will learn ways to challenge your students as they discover how many “heads, shoulders, knees, and toes” there are in all. Problem-solving skills, children's literature, and addition and subtraction skills will be integrated throughout this session.

Gale Pukall

Kenna Elementary School, Charleston, West Virginia

144 C (Convention Center) capacity: 156**689****Using the Lens of the Visual Arts and Children's Literature to Explore Grades PreK–2 Mathematics****(PreK–2, Teacher of Teachers) Session**

Explore Matisse's patterns, Arp's chance collages, Mondrian's quadrilaterals, Warhol's and Kandinsky's 2D and 3D shapes, and number concepts in works by Pollock and Lichtenstein. Explore children's literature that features the visual arts and learn how to connect literature to mathematical concepts. Discuss research on math-art connections.

Robin Anne Ward

Rice University School Mathematics Project, Houston, Texas

156 (Convention Center) capacity: 156**690****Fractions: More than Pizzas and Pies****(PreK–5) Session**

Fraction sense should be a priority for teachers as they instruct grades K–5 students. See how this understanding of fractions can be taught in the elementary grades in a way that makes sense to students. Activities will be shared that can be used with students that encourage mental math, rather than relying on procedures.

Rhonda Inskeep

Howard County Public Schools, Ellicott City, Maryland

Sharon Lewandowski

Howard County Public Schools, Ellicott City, Maryland

102 A (Convention Center) capacity: 144**691****Response to Intervention (RTI) and Math: Where Do We Start?****(PreK–5, Teacher of Teachers) Session**

Learn how one district implemented RTI by screening their grades K–2 students, implementing research-based interventions, and supporting teachers with professional development around the early predictors of math difficulty. Participants will receive ideas and handouts that can be used to help them design their own model.

Jennifer Bolend

Shawnee Mission School District, Shawnee Mission, Kansas

103 B (Convention Center) capacity: 164

**692****Math for All: Differentiating Math Instruction****(3–5) Session**

All mathematics teachers face the challenge of meeting the needs of a wide range of students. This session helps teachers understand what it means to meet students' needs through differentiation. Teachers experience a variety of approaches that help them make instructional adjustments to content that address how different students learn.

Lu Ann Weyand

Math Solutions Professional Development, San Antonio, Texas

147 B (Convention Center) capacity: 255**693****Closing the Gap: Helping Students at Risk Build Computational Fluency****(3–5, Teacher of Teachers) Session**

Some students in grades 4 and 5 lack mathematical understanding and rely on lower level skills, which prevents them from developing the knowledge and skills necessary to access middle school mathematics. Participants analyze students' work and identify gaps. Intervention strategies used in a public elementary school are shared.

Anne M. Goodrow

Rhode Island College, Providence, Rhode Island

Jackie Crowley

Cumberland Public Schools, Cumberland, Rhode Island

209 B/C (Convention Center) capacity: 213**694****Mathematics Spoken Here: Motto for the "Live" Math Classroom****(3–8) Session**

Create a "live" math classroom where all students are involved using the vocabulary of mathematics as they work on motivational starting activities. Expect participation from each student, and constantly assess all!

Marcy Cook

Consultant, Balboa Island, California

146 C (Convention Center) capacity: 414**695****Response to Intervention (RTI) for English Language Learners****(3–12) Session****TODOS: Mathematics for ALL presentation**

Participants will learn how to apply RTI instruction and assessment procedures (an IDEA 2004 requirement) to their work in mathematics with English language learners (ELLs). Through RTI, participants will learn to foster improved articulation of services for ELLs. Handouts will provide additional resources.

Kelly M. Costner

TODOS: Mathematics for ALL; Winthrop University, Rock Hill, South Carolina

Elke Schneider

Winthrop University, Rock Hill, South Carolina

150 B (Convention Center) capacity: 248**696****Why Are They Two Years Behind in Math?****(6–8) Session**

Film clips of students completing fractions tasks will show different learning styles of students at a high-poverty school who entered sixth grade lacking basic fractions concepts. Learn about the students' very different needs, what led to their misconceptions, and effective, differentiated interventions for students with each learning style.

Jane Kise

Differentiated Coaching Associates, LLC, Minneapolis, Minnesota

204 C (Convention Center) capacity: 135**697****Implementing Socratic Seminars in the Mathematics Classroom****(6–8) Session**

Socratic seminars provide a way for students to communicate their ideas, engage others, and think critically. This session will focus on appropriate seminar topics, establishing expectations, and practice conducting a short session. Time to brainstorm will be provided. Attendees will leave with grade-level-appropriate seminar topics.

Natalie Sprigg

Mountain Ridge Middle School, Highlands Ranch, Colorado

207 B (Convention Center) capacity: 426

**The proposal deadline
for the 2010 Annual
Meeting and Exposition
is May 1, 2009. Go to
<http://www.nctm.org/speak>
to submit your proposal!**

698**Geometry: Effective Activities to Promote Understanding, Discovery, and Connections****(6–8, Teacher of Teachers) Session**

Middle school geometry content and concept development will be explored using a variety of questioning techniques and extension opportunities for all students. Activities and ideas will include the use of different grids, coordinate geometry, visual glossary, extended constructed-response questions, and fun.

David J. Glatzer

Retired, West Paterson, New Jersey

158 A/B (Convention Center) capacity: 137**699****Web 2.0 and Math****(6–12) Session**

Increase classroom communication and collaboration. Discover how information and communication technologies can be integrated into the mathematics classroom through wikis, blogs, and other Web 2.0 tools. Receive how-to information including lesson ideas, technology tips, and related Web site information.

Jennie Gibson

Idaho Virtual Academy, Jerome, Idaho

202 B (Convention Center) capacity: 418**700****GeoGebra: A Geometric and Algebraic Open Source Tool****(6–12) Session**

GeoGebra is an application that combines dynamic geometry with dynamic algebraic representation, making it an excellent tool for helping students grasp difficult concepts. After a quick look at GeoGebra basics, you'll see a variety of ways in which this versatile application can be used to teach mathematical concepts with multiple representations.

Eric Karnowski

Education Development Center, Newton, Massachusetts

145 B (Convention Center) capacity: 278**701****Geometric Transformations in Music****(6–12) Session**

Reflections, translations, rotations, and dilations are tools that composers use in constructing melody and harmony in all genres of music. Activities will be presented that will engage auditory, visual, and kinesthetics learners through listening to, reading, and playing music. Extensions to algebra and data analysis will be provided.

Brett Cooper

University of Missouri–Kansas City, Kansas City, Missouri

152 B (Convention Center) capacity: 262**702****Teaching Slope as a Rate of Change Leads to Better Understanding****(9–12) Session**

Teaching slope as a rate of change makes the concept much more meaningful and understandable to an algebra student. See how this approach can make the topic easier for your students and allow you to introduce the concept of the derivative as early as a first year algebra course using a graphing calculator.

David DeLaby

California Academy of Math and Science, Carson, California

146 A (Convention Center) capacity: 423**703****Regular Polygons, Turned Inside Out****(9–12, Higher Education, Teacher of Teachers) Session**

Use hand-held dynamic geometry to explore some radical concepts with polygons. Predict and build fractional (star) polygons and polygons with negative sides. Be prepared to examine some new ideas with some simple constructions. Hands-on session until the handhelds run out.

Paul Williams

Red Deer College, Red Deer, Alberta, Canada

209 A (Convention Center) capacity: 107**704****Learning Objects + Inquiry Questions = Enhanced Student Understanding****(9–12, Teacher of Teachers) Session**

The presenter will use activities based on learning objects created for TI-Nspire software to demonstrate the Action/Consequence/Reflection Principle. The learning objects allow students to act on mathematical objects, observe consequences of these actions, and then reflect on the mathematical meaning of these consequences using inquiry questions.

Wade Ellis

West Valley College, San Jose, California

140 A (Convention Center) capacity: 154

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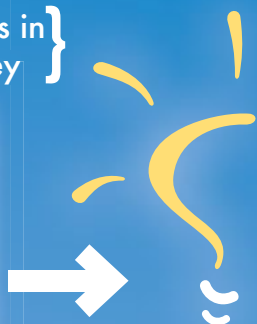
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8:00 a.m.–9:00 a.m.

705**Computational Science in High School Mathematics****(9–12, Teacher of Teachers) Session**

This session will present activities whose goal is to use simple scientific phenomena as a foundation to introduce math concepts. Participants will receive worksheets with student-centered activities that correlate to science. Applications of Internet-based science simulation programs will also be discussed.

Andrzej Sokolowski

Magnolia West High School, Magnolia, Texas; Texas A&M University, College Station, Texas

203 A/B (Convention Center) capacity: 150**706****If You Are Standing Still, You Are Falling Behind! Embracing Change in Standards-Based Mathematics Instruction****(Higher Education) Session****Presidents' Series presentation**

In our global society, one thing is constant: tomorrow will change! Changes in our world and classrooms are a way of life. Becoming a teaching professional is more than being a good teacher: it involves lifelong learning. Strategies for embracing change and stepping out of your comfort zone will be discussed.

Richelle Blair

President, American Mathematics Association of Two-Year Colleges, Concord, Ohio

Ballroom B (Convention Center) capacity: 1440**707****Representations: Communication and Understanding Tools for All Students****(Teacher of Teachers) Session**

This session will give an overview of strategies used with preservice elementary and secondary school teachers to increase the use of mathematical representations and expand communication skills. A summary of some of the experiences the preservice teachers had in classrooms with English language learners will be also presented.

Gilbert Cuevas

Texas State University at San Marcos, San Marcos, Texas

Ballroom A (Convention Center) capacity: 1442

8:00 a.m.–9:30 a.m.

**708****Using the Conceptual Understandings of Mathematical Language, Content, and Pedagogical Knowledge to Address Equity Issues****(General Interest) Gallery Workshop****Benjamin Banneker Association presentation**

This interactive gallery workshop will address the roles that language, communication, teachers' knowledge of mathematical content and pedagogy, and cognitive psychology play in providing instruction for learners in diverse settings.

Genevieve Madeline Knight

Benjamin Banneker Association, Atlanta, Georgia

147 A (Convention Center) capacity: 243**709****Assessing Mathematical Understanding of Struggling Learners in Number and Operations****(PreK–2) Gallery Workshop**

Identifying and assisting struggling learners is a challenging aspect of teaching mathematics. However, students are often struggling mathematically for a variety of reasons. This presentation examines students' work to identify better the differences that exist in this group of students, so their needs can be met.

Delinda van Garderen

University of Missouri—Columbia, Columbia, Missouri

John Lannin

University of Missouri—Columbia, Columbia, Missouri

140 B (Convention Center) capacity: 125**710****No-Nonsense Number Sense****(PreK–2) Gallery Workshop**

Primary school teachers are invited to attend this gallery workshop to experience hands-on, Standards-based activities that facilitate the development of number sense concepts for young students. Activities will integrate algebraic thinking, data analysis, and geometry concepts while reinforcing number-sense concepts.

Latrenda Knighten

Consultant, Baton Rouge, Louisiana

150 A (Convention Center) capacity: 226

711**Construction Zone: Part-Part-Whole Thinking****(PreK–2) Gallery Workshop**

Engage in activities that help young children lay the foundation for part-part-whole thinking, and learn how to assess the strength of that foundation. Examine ways that students use part-part-whole thinking as they construct mathematical understanding in later years. Use part-part-whole thinking to build bridges between reading and mathematics.

Karen Watkins

Chesterfield County Public Schools, Richmond, Virginia

Elizabeth Beckner

Chesterfield County Public Schools, Richmond, Virginia

159 A/B (Convention Center) capacity: 109

712**Let's Focus on Shapes! Geometry in Curriculum Focal Points****(PreK–5) Gallery Workshop**

Attendees will examine the geometry focal points for elementary grades. They will engage in a variety of hands-on activities designed both to foster learners' ability to describe and analyze two- and three-dimensional shapes and to enhance their spatial reasoning. Focus on this important strand of the curriculum!

Karen Dorgan

Mary Baldwin College, Richmond, Virginia

101 (Convention Center) capacity: 170

713**Games' Claim on Equity****(3–5) Gallery Workshop**

Learn how to differentiate games to meet the needs of all learners. You will learn the research behind hands-on learning for diverse populations and the use of games. You will play a variety of games across the math strands and learn how to differentiate them. You will receive copies of all games and information provided.

Kristin Jones Wiley

Fairfax County Public Schools, Fairfax, Virginia

Dori Lynn Hargrove

Fairfax County Public Schools, Fairfax, Virginia

102 B (Convention Center) capacity: 204

714**The Importance of Place Value in Building a Foundation for Number Sense****(3–5) Gallery Workshop**

Discover how a solid number sense foundation begins with place value. By using a variety of place-value manipulatives for both whole numbers and decimals, you can help guide your students to math success. Computational strategies using place value will help your students think quickly on their feet. Success is only a few strategies away.

Sandra Chen

Staff Development for Educators, Peterborough, New Hampshire

146 B (Convention Center) capacity: 340

715**Communication: Five Talk Moves That Promote Access for All Learners****(3–5) Gallery Workshop**

Communication is a key to helping students develop a deeper understanding of the concepts they are learning. Classroom talk is an instructional practice that can provide students access to the mathematics they are learning. Come learn five strategies, known as Talk Moves, which promote communication in the math class.

Renee Everling

Marilyn Burns Education Associates, Sausalito, California

204 A/B (Convention Center) capacity: 227

716**Spatial Relations: Constructing Mathematical and Scientific Ideas****(3–5, Teacher of Teachers) Gallery Workshop**

Children view the world more through their perceptions than knowledge. Come explore hands-on mathematics and science activities appropriate for developing spatial relations. From shadows to cross sections, models to mirrors, see how experiences with topology, perspectives, and projections help children develop mathematical and scientific concepts.

Jean Morrow

Emporia State University, Emporia, Kansas

151 A (Convention Center) capacity: 291

Visit **www.nctm.org** for
lessons, activities, and
teacher resources!

717**Rhombuses, Triangles, Pyramids, and Cubes: Surprising 2-D and 3-D Geometric Puzzles to Design and Make****(3–12, Teacher of Teachers) Gallery Workshop**

Swing a hinged triangle into a square. Fill a polygon with rhombuses. Cut a tetrahedron into congruent pieces. Slice a cube into three congruent pyramids. Make a magic folding cube. These geometric dissections will engage and motivate your students! Tested lesson plans from a university algebra and geometry course for teachers will be provided.

Patricia Baggett

New Mexico State University, Las Cruces, New Mexico

Andrzej Ehrenfeucht

University of Colorado, Boulder, Colorado

208 A/B (Convention Center) capacity: 95**718****Different Ways to Teach Difficult or Confusing Concepts: Multiple Representations Unlock Understanding****(6–8) Gallery Workshop**

Participants will engage in hands-on activities designed to engage students in making sense of factors, greatest common factors, factor lattices, and comparing fractions. Diverse learners benefit from geometric representations for numeric concepts.

Anne M. Collins

Lesley University, Cambridge, Massachusetts

152 A (Convention Center) capacity: 226**719****Using Venn Diagrams to Develop Reasoning Skills in Middle School Students****(6–8) Gallery Workshop**

Attendees will participate in activities using grouping circles to illustrate Venn diagrams. The topics covered include number theory, problem solving, geometry, and probability. Participants will see how Venn diagrams can be used as an alternative way of teaching various concepts. Differentiation strategies will be covered as well.

Deborah Ann Simmons

Milton Somers Middle School, La Plata, Maryland

Sandy McVerry

Milton Somers Middle School, La Plata, Maryland

207 A (Convention Center) capacity: 339**720****Ratio: Proportion as Equity for All—Focus on Multiple Representation, Concrete Models, and Fun!****(6–8, Teacher of Teachers) Gallery Workshop**

Investigate the ratio/proportion strand to develop quantitative relationships using visual representations and the five E's—Engage with a concept map, Explore ratio comparison by making trail mix, Explain using a graphic organizer, Extend with a simulation, and Evaluate using a portfolio whose rubrics are aligned to the instructional strategies.

Donna Davis

Baltimore City Public Schools, Baltimore, Maryland

201 (Convention Center) capacity: 326**721****Using Graphic Organizers to Support the Learning of Algebra Concepts for Secondary School Students with Disabilities****(6–12) Gallery Workshop**

Representing and solving algebra problems can be particularly difficult for students with disabilities in mathematics. Many of these students need visual schemes to help them organize their thinking. Experience how graphic organizers can bridge the gaps in learning algebra concepts and help make students with learning problems strategic learners.

Valerie T. Nelson

Prince George's County Public Schools, Department of Curriculum and Instruction, Oxon Hill, Maryland

Michelle Dyson

Prince George's County Public Schools, Department of Curriculum and Instruction, Oxon Hill, Maryland

144 B (Convention Center) capacity: 96**722****EN³: Engage, Enlighten, and Enrich!****(6–12) Gallery Workshop**

The power and beauty of teaching mathematics will be explored as participants experience a simple teaching philosophy that focuses on engaging, enlightening, and enriching all learners. Exciting ideas, fun activities, and empowering mathematics will be shared.

Robert Mann

Western Illinois University, Macomb, Illinois

103 A (Convention Center) capacity: 232

723**Closing the Achievement Gap by Getting Urban Youth to Succeed in Algebra: Gateway to Careers****(6–12, Higher Education) Gallery Workshop**

This presentation will share, through interactive demonstrations and video, evidence-based instructional strategies that educators can use to help urban and special education students succeed and close the achievement gap in algebra. These strategies have helped students in inner-city Sacramento outperform an entire district of thousands.

Kadhir Rajagopal

Grant Union High School, Sacramento, California

154 A/B (Convention Center) capacity: 162**724****Investigating Invariants: A Pivotal Mathematical Habit of Mind in Algebra and Geometry Using TI-Nspire™****(6–12, Higher Education, Teacher of Teachers) Gallery Workshop**

Revisit polygonal numbers to discover polynomial patterns by asking what stays the same and what changes. These questions develop an investigative habit that makes pattern equations “pop” for students. Learn to investigate algebraic patterns connected to geometry with TI-Nspire. A CD with all activities and worksheet templates will be available.

Jean Jernigan McGehee

University of Central Arkansas, Conway, Arkansas

Linda Karen Griffith

University of Central Arkansas, Conway, Arkansas

202 A (Convention Center) capacity: 368**725****Instructional Games and Algebra: How Do You Do That?****(6–12, Teacher of Teachers) Gallery Workshop**

Instructional games provide the teacher with the flexibility in the lesson and greater insight into the students' thinking in order to cater effectively to several levels of learning readiness in the one algebra class. This gallery workshop will discuss materials and strategies that enhance the teaching of algebraic understandings at all levels.

Jane Deborah Irvin

Griffith University, Brisbane, Queensland, Australia

145 A (Convention Center) capacity: 244**726****Podcasting 101: Creating Audio and Video Connections to Your Students****(6–12, Teacher of Teachers) Gallery Workshop**

Want to create and publish audio and video math podcasts? This hands-on demonstration will include podcasting basics and a list of do's and don'ts using inexpensive or free software. Several math podcasts will be presented, and podcast opportunities will be discussed. Laptops with battery power are welcome!

David Eugene Ewing

University of Central Missouri, Warrensburg, Missouri

206 (Convention Center) capacity: 323**Exhibitor Workshop 49****It's About Time****Autograph®: A Graphical and Statistical Software Program**

This session will look into how Autograph will help students visualize the functions and data that are being presented in their algebra, geometry, and calculus classes. Used in conjunction with a SMARTBoard, this software is a must purchase for all mathematics classrooms. Presented by Douglas Butler

Room 143 A (Convention Center)**Exhibitor Workshop 50****STEPS Professional Development****Uncovering and Clarifying Students' Misconceptions about Mathematics**

First Steps in Mathematics uncovers and resolves students' misconceptions about mathematics. Experience the materials and activities that work with any mathematics curriculum to build and extend teacher's knowledge and provide tools to diagnose, plan, and target instruction for students.

Room 143 B (Convention Center)

**727****Diverse Voices: Moving Forward Together!****(General Interest) Session****Equity Coalition presentation**

The Benjamin Banneker Association, TODOS, Women and Mathematics Education, the North American Study Group on Ethnomathematics, the Association of Teachers of Mathematics Education, NCSM, and NCTM have started discussing how to move an Action Agenda for Equity forward in our community. We invite participants to join our discussion.

Miriam A. Leiva

TODOS: Mathematics for ALL, Harrisburg, North Carolina

Marilyn Anita Evans

Women and Mathematics Education, Houston, Texas

Timothy Kanold

National Council of Supervisors of Mathematics, Lodi, California

Ballroom B (Convention Center) capacity: 1440

728**Putting It All Together: How integrated Math, Science, and Language Arts Units Benefit Students' Learning****(PreK–2, Teacher of Teachers) Session**

This presentation will offer a variety of tried and successful examples of how to integrate math, science, and literature into an everyday prekindergarten through grade 2 curriculum. Units used and activities to be discussed are Colors, Pumpkins, Penguins, Plants, and Seeds. An activities packet will be given to each attendee.

Sarah Grogan

Convent of the Sacred Heart, Greenwich, Connecticut

149 A/B (Convention Center) capacity: 174

729**Magic Board: A Dynamic Interface for Designing Instructional Materials for Teaching Number and Measurement Concepts****(PreK–2, Teacher of Teachers) Session**

Magic Board is a virtual collection of icons and symbols teachers can use to create learning materials or to implement teacher-created activities. Participants will experience hands-on learning about using the Magic Board to introduce and reinforce primary school mathematics concepts, as well as how to navigate the tool and its available resources.

Yuan Yuan

Chung Yuan Christian University, Chung Li, Taiwan, Republic of China

Helen Gerretson

University of South Florida, Tampa, Florida

207 B (Convention Center) capacity: 426

730**Help Children Make Generalizations and Identify Relationships to Discover Addition, Subtraction, and Multiplication Fact Strategies****(PreK–5) Session**

This session will demonstrate activities to teach strategies to learn addition, subtraction, and multiplication facts with meaning. An emphasis will be on language to promote thinking and help children focus on the mathematics involved.

Vicki Newman

Los Alamitos Unified School District, Huntington Beach, California

146 A (Convention Center) capacity: 423

731**Building a Solid Foundation in Mathematics for All Children: One Fraction at a Time****(3–5) Session**

This session will address instructional strategies that will yield better understanding and increased retention as well as empower students in their own problem-solving abilities. Active audience participation is a must. All participants will receive a comprehensive handout with ready-made lessons, good to go the next day at school.

Joan Josephine Vas

Kean University, Union, New Jersey

103 B (Convention Center) capacity: 164

**732****Rx from the Differentiation Doctors: Meeting the Academic Needs of Mathematically Promising Students****(3–5) Session**

Meeting the needs of students with a wide range of academic needs is daunting! The presenters have a Rx that, when taken regularly, will provide just what you need to challenge all students in your classroom, particularly those who are mathematically promising. Leave this session with a prescription, lesson template, and sample tiered lessons.

Rebecca Pierce

Ball State University, Muncie, Indiana

Cheryll M. Adams

Ball State University, Muncie, Indiana

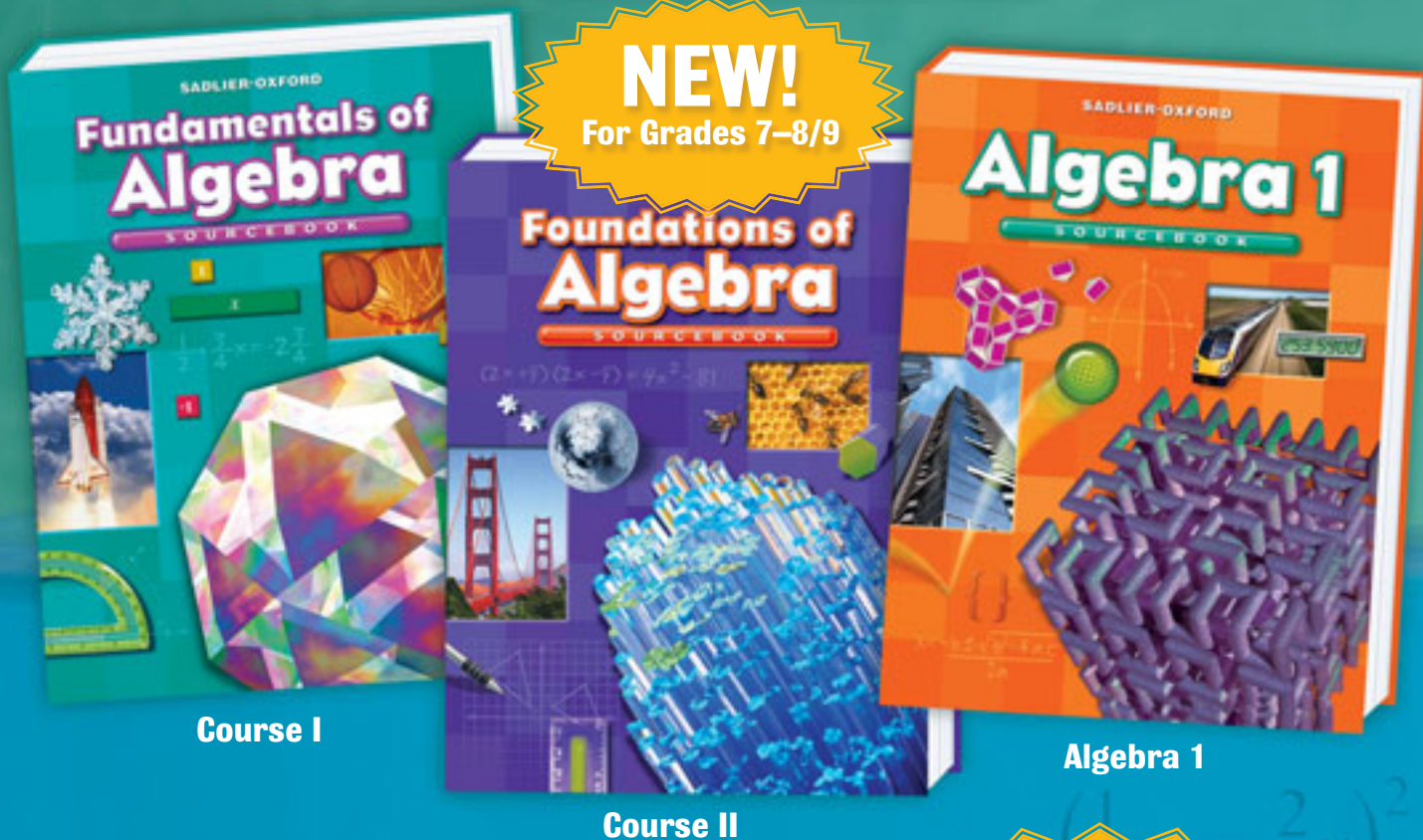
158 A/B (Convention Center) capacity: 137

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733**Use Some Favorite Problems You Might Have Missed to Teach Problem Solving and Mathematics****(3–8) Session**

During the past 25 years, some problems have become favorites. But why? What makes them favorites? The speaker will use several of these problems to show how to use them to teach problem solving, critical thinking, and mathematics. Participants will be involved in adapting the problems for their own class use.

Stephen Krulik

Temple University, Philadelphia, Pennsylvania

145 B (Convention Center) capacity: 278

734**Helping Students Reconcile Visual and Symbolic Representations for Fraction Multiplication Contexts****(3–8) Session**

This session explores fifth- and sixth-grade students' thought processes as they struggle to integrate their algorithmic knowledge of fraction operations with pictures they draw to solve fraction multiplication problems set in a context. Important fraction concepts and how they relate to students' work will be discussed.

Pamela J. Wells

Grand Valley State University, Allendale, Michigan

Jeana Duimstra

Jenison Public Schools, Jenison, Michigan

152 B (Convention Center) capacity: 262

735**Using Virtual Manipulatives in Middle School Mathematics****(3–8) Session**

With recent innovations in technology and the increasing availability of computers in classrooms, an enhanced approach for teaching and learning mathematics using manipulatives and computers has emerged. This presentation will focus on the actual use of virtual, computer-generated manipulatives in the middle school classroom.

Vanessa E. Huse

Texas A&M University—Commerce, Commerce, Texas

Maribeth McAnally

Texas A&M University—Commerce, Commerce, Texas

209 B/C (Convention Center) capacity: 213

736**The Effects of Single-Sex Classrooms on Mathematics Achievement: Algebra and the Achievement Gap—Part 2****(6–8) Session****Benjamin Banneker Association presentation**

This is a follow-up to the popular 2008 Annual Meeting session on preparing African American students for success in algebra. Formally known as the gatekeeper to further mathematics, algebra is now an eighth-grade requirement in many states. The discussion will highlight our research in single-sex classrooms.

Lesla M. Covington Clarkson

University of Minnesota—Twin Cities, Minneapolis, Minnesota

David J. Fischer

University of Minnesota—Twin Cities, Minneapolis, Minnesota

Anica G. Bowe

University of Minnesota—Twin Cities, Minneapolis, Minnesota

150 B (Convention Center) capacity: 248

**737****Differentiation: Meeting the Needs of All Learners****(6–8) Session**

This session investigates ways to support students to be successful learners. Come explore multiple strategies you can use to meet the needs of the wide variety of math thinkers and learners in your classroom.

Genni Steele

Math Solutions Professional Development, Sausalito, California

151 B (Convention Center) capacity: 284

738**Using Activities and Applications to Facilitate Middle School Mathematics****(6–8) Session**

This session will provide a series of activities and applications that can be used in a classroom to motivate middle school students.

Rick Billstein

University of Montana, Missoula, Montana

202 B (Convention Center) capacity: 418

739**The Development of Algebraic Thinking: Insights from a Longitudinal Study****(6–8) Research Session**

From findings from a longitudinal study of curricular effect on algebra learning with 1400 students, this session offers research-based insights and practical instructional strategies about the development of algebraic thinking in middle grades and the interplay between the acquisition of procedural knowledge and algebraic concepts.

Jinfa Cai

University of Delaware, Newark, Delaware

John C. Moyer

Marquette University, Milwaukee, Wisconsin

Bikai Nie

University of Delaware, Newark, Delaware

Connie Laughlin

Marquette University, Milwaukee, Wisconsin

204 C (Convention Center) capacity: 135**740****Algebra, Problem Solving, and Higher-Level Mathematics for Middle School Students****(6–8, Higher Education, Teacher of Teachers) Session**

This presentation will describe problems and activities that prepare young students for algebra and higher-level mathematics. Participants will learn about challenging problems, including problems from the Primary Math World Contest in Hong Kong, and each participant will receive a collection of problems to use with their own students.

Max Warshauer

Texas State University, San Marcos, Texas

Hiroko Kawaguchi Warshauer

Texas State University, San Marcos, Texas

209 A (Convention Center) capacity: 107**741****Mathematics Vocabulary for All: Achieving Language Learning****(6–12) Session**

Communication is central to mathematics teaching and learning, yet language presents many issues. In this session participants will learn specific vocabulary learning challenges and strategies to address them.

Rheta N. Rubenstein

University of Michigan—Dearborn, Dearborn, Michigan

147 B (Convention Center) capacity: 255**742****Painless Literacy Instruction for Your Mathematics Classroom****(6–12) Session**

Lack time and expertise to incorporate literacy instruction into your upper grades mathematics classes? Good news! Literacy instruction is not as hard or time consuming as you may think. Come learn specific ways you can fit literacy instruction painlessly into your everyday mathematics teaching as you enhance your students' mathematical learning.

Daniel Siebert

Brigham Young University, Provo, Utah

Roni Jo Draper

Brigham Young University, Provo, Utah

Ballroom A (Convention Center) capacity: 1442**743****Where in the World Is ...?****(6–12) Session**

Participants will learn how to use Google Earth to facilitate a data-collection lesson. In this activity the distances between points will be measured in two different units of measure. A scatter-plot of the data will be investigated, and a line of best fit determined. Predictions will be made based on the equation for the line of best fit.

Susan Marie Howe

Howard County Public Schools, Ellicott City, Maryland

David Buchoff

Howard County Public Schools, Ellicott City, Maryland

102 A (Convention Center) capacity: 144**744****Baseball, Beans, and Binomials****(6–12) Session**

What do the number of hits a batter gets on a given day or the number of seeds that germinate have to do with binomial coefficients? See how Pascal's triangle helps us make predictions about real-world data. TIMS inquiry activities for grades 6–12 students will be shared.

Philip Wagreich

University of Illinois at Chicago, Chicago, Illinois

156 (Convention Center) capacity: 156

9:30 a.m.–10:30 a.m.

745**Creating a Research Portfolio That Demonstrates Understanding the World with Numbers****(9–12) Session**

In this activity, students work with teachers, librarians, and an instructional technologist to research a geopolitical or environmental topic. They select software tools such as VideoPoint, Stella, Fathom, Maple, and Excel to analyze data and present both the problem and potential solution. Projects are put in individual portfolios.

Elizabeth Helfant

Mary Institute and Country Day School, Saint Louis, Missouri

Alan Begrowicz

Mary Institute and Country Day School, Saint Louis, Missouri

140 A (Convention Center) capacity: 154**746****An Artistic, Historical, and Mathematical Walk through Washington, D.C.****(9–12) Session**

Join a diverse group of educators with experience bringing rich and meaningful mathematics to life for all students. Explore paths that take you through the Federal Triangle, the National Building Museum, and more from a uniquely mathematical and historical perspective. Interact with students who have experienced the benefits of this activity.

Ron Lancaster

University of Toronto, Toronto, Ontario, Canada

Brigitte Bentele

Trinity School, New York, New York

Todd Bucey

Higgins Middle School, Peabody, Massachusetts

Diane Devine

Peabody Public Schools, Peabody, Massachusetts

Lisa Ledwith

Germantown Academy, Fort Washington, Pennsylvania

Larry Ottman

Haddon Heights High School, Haddon Heights, New Jersey

Carly Ziniuk

CZiniuk@bss.on.ca

Bishop Strachan School, Toronto, Ontario, Canada

146 C (Convention Center) capacity: 414**747****Motivating Students Using Web-Based Media and Environmental Issues****(9–12, Higher Education) Session**

The speaker will explain how she used a variety of Web-based media sources to expose students to environmental applications in her algebra and statistics classes. She will share application exercises that she created to model proportions, percents, average rate of change, exponents, and probability distribution.

Cathleen Zucco-Teveloff

Rowan University, Glassboro, New Jersey

203 A/B (Convention Center) capacity: 150**748****Math Podcasting to Go: Design, Purpose, Format, Delivery****(Higher Education) Session**

An overview will be presented of the design, purpose, format, portability, and delivery of math podcasts in various courses. Topics of discussion will include challenges in the creation of audio files and accompanying lecture notes, students' access in public domain, course usage statistics, and students' success.

Oiyin Pauline Chow

Harrisburg Area Community College, Harrisburg, Pennsylvania

144 C (Convention Center) capacity: 156

10:00 a.m.–11:00 a.m.

Exhibitor Workshop 53**It's About Time****Math Connections: A Standards-Based Mathematics Curriculum**

This session will look at three activities that demonstrate how the standards-based program Math Connections helps students at all levels of ability achieve success in mathematics. We will show data on how schools have increased students' results on state assessments—the greatest gains being for the lower level students. Presented by Bob Davies

Room 143 A (Convention Center)**Exhibitor Workshop 54****You Can Do The Rubik's Cube****You Can Do The Rubik's Cube Program**

This workshop demonstrates all the teaching tools available in the Rubik's Cube Solution Kit for educators to use in the classroom. Excite fifth- to eighth-grade students while meeting national and state math requirements. Learn more at www.YouCanDoTheCube.com.

Room 143 B (Convention Center)

749**All Aboard for Math and Children's Literature!****(PreK–2) Gallery Workshop**

The content of this gallery workshop will be presented to the group in an informal setting. Participants will have an opportunity to ask questions, develop lessons, and leave with a collection of children's literature that incorporates math.

Sallie Harper

Mississippi State University, Meridian, Mississippi

Laura Bryan

Mississippi State University, Meridian, Mississippi

Tory Shirley

Mississippi State University, Meridian, Mississippi

102 B (Convention Center) capacity: 204**750****Response to Intervention (RTI): One Piece in the Early Math Education Puzzle****(PreK–2, Teacher of Teachers) Gallery Workshop**

Effective math teaching requires a close link between assessment and instructions, but practicing this approach in the classroom can be challenging. Using case studies, participants will learn how the RTI approach can guide them in planning assessments, interpreting the results, and linking them to instruction.

Michael P. Mueller

Hospital for Sick Children, Toronto, Ontario, Canada

144 B (Convention Center) capacity: 96**751****Visual Logic Games That Challenge All Kids to Play, Reason, and Talk about Mathematics****(PreK–5) Gallery Workshop**

Let the students do the talking about logic and math! The presenter has amassed many quick-to-learn, yet challenging, logic games with language-free, visual clues that get all kids excited about problem-solving. Kids from diverse backgrounds, ages, mathematical abilities, and preparation all get hooked! Come play and experience the challenge!

Polina Sabinin

Boston University, Boston, Massachusetts

154 A/B (Convention Center) capacity: 162**752****Adding Diversity to the Mathematics Classroom Through Children's Literature****(3–5) Gallery Workshop**

Explore children's literature that can be used to expand students' awareness of and appreciation for cultural diversity. Participants will experience hands-on activities that illustrate how these same books can be integrated into a culturally relevant mathematics curriculum and used as motivation for mathematics learning by all.

Betty B. Long

Appalachian State University, Boone, North Carolina

101 (Convention Center) capacity: 170**753****Fractions + Manipulatives = Understanding****(3–5) Gallery Workshop**

Participants will discuss the importance of using manipulatives to teach and understand fractional concepts through a variety of activities. A variety of manipulatives will be used in order to show the three models of fractions. Participants will receive materials that relate to the presentation's activities.

Kimberly Donahue Tresky

Roanoke City Public Schools, Roanoke, Virginia

Robin Carpenter

Roanoke City Public Schools, Roanoke, Virginia

145 A (Convention Center) capacity: 244**754****Promoting Equity by Using Children's Literature****(3–5) Gallery Workshop**

Many current children's literature books provide opportunities for teachers to extend the mathematics, while developing positive attitudes and offering students with opportunities to generate new solutions. Activities and materials for promoting equity in mathematics for all will be demonstrated.

Don S. Balka

Board of Directors, National Council of Teachers of Mathematics; Saint Mary's College, Notre Dame, Indiana

147 A (Convention Center) capacity: 243

SATURDAY

**A special thank you
to all the volunteers
that have assisted with
the Annual Meeting!**

10:00 a.m.–11:30 a.m.

755**Don't Judge a Book by It's Cover! Research-Based Criteria for Selecting Curriculum Materials****(3–8) Gallery Workshop**

It's textbook adoption time, but you don't know what to choose! This presentation will offer research-based criteria for reviewing and selecting curriculum materials. Participants will engage in analyzing curriculum materials to determine their level of alignment to NCTM's *Principles and Standards*.

Julie Stephens James

University of Mississippi, University, Mississippi

Shannon Harmon

University of Mississippi, University, Mississippi

140 B (Convention Center) capacity: 125**756****Tools for Success: Providing Struggling Students Access to Middle School Mathematics****(6–8) Gallery Workshop**

How do you provide access for struggling learners to rational numbers? In this presentation, attendees will explore tools such as number lines, ratio tables, and a fraction/percent bar. They will learn how to use the tools to mediate gaps in mathematical understanding so struggling students have access to grade-level mathematics.

Paige Larson

Boulder Valley School District, Boulder, Colorado

Michael Matassa

Boulder Valley School District, Boulder, Colorado

159 A/B (Convention Center) capacity: 109**757****A Premier Collection of Measurement Activities for Middle School Students****(6–8) Gallery Workshop**

This hands-on gallery workshop will engage participants in exciting measurement activities appropriate for middle school students. A variety of measurement attributes will be explored, such as distance, area, volume, capacity, weight, time, and angular measurement. One of the activities will use the TI-73; another, the TI-Nspire.

Gail Marie Gallitano

West Chester University, West Chester, Pennsylvania

206 (Convention Center) capacity: 323**758****Fun Stuff! Models, Music, Hula Hoops, and Games: Observations, Estimations, Representations, and Explorations****(6–8) Gallery Workshop**

Teachers, come out from behind your desk for interactive, engaging, motivational classroom fun and problem solving with a smile. Take measurements and analyze data using hula hoops and games. Use instructional approaches for every type of learner. Prepare to participate and work in groups. Warning: There will be music—and not just for listening!

Gerald Burton

Virginia State University, Petersburg, Virginia

Cheryl Adeyemi

Virginia State University, Petersburg, Virginia

207 A (Convention Center) capacity: 339**759****Representation: Success with Hands-On Experiences****(6–8, Teacher of Teachers) Gallery Workshop**

Expand your pedagogical repertoire by adding these unique, middle grades activities to your teaching arsenal. The hands-on approach encourages greater participation by more of your students with diverse learning styles, thus increasing the odds of longer retention of some important concepts.

Tim McNamara

Consultant (Retired), Webster, New York

208 A/B (Convention Center) capacity: 95**760****Yahtzee®!: Teaching Probability through the Fun of Family Games****(6–12) Gallery Workshop**

Learn how Yahtzee, Monopoly, and other popular family games provide social, manipulative, and contextually motivated learning of sample space, experimental and theoretical probability, expected value, and situation-based decision making. Perhaps your students will even learn how to beat a world champion in tournament play, just like one of the presenter's did!

Timothy Vandenberg

Hesperia Unified School District, Hesperia, California

151 A (Convention Center) capacity: 291

761**The Patterns of Algebra****(6–12) Gallery Workshop**

The study of mathematics is the study of patterns. Algebra is accessible to every student when it is taught as patterns. You will discover the patterns relating to linear, absolute value, and quadratic functions, and discover how easily they can be generalized into a personal understanding of the function, its graph, and its solutions.

Bob Alan Greer

Clark County School District, Henderson, Nevada

Deena Marie Lyons

Clark County School District, Henderson, Nevada

146 B (Convention Center) capacity: 340**762****Kids Say, “I Wanna Talk about Me!”****(6–12) Gallery Workshop**

Do teachers talk too much? This presentation is about cutting down teachers’ chatter and increasing students’ talk. Investigate cooperative learning techniques and structures from the Kagan Institute that are classroom-tested in algebra and geometry. All activities will be modeled, and *yes, we will talk about you!!*

Gina Griffin-Evans

Fairfax County Public Schools, Springfield, Virginia

150 A (Convention Center) capacity: 226**763****Achieve Equity in Your Classroom by Developing Effective Descriptive Feedback with Assessments Based on Standards****(6–12) Gallery Workshop**

Experience the process used in Milwaukee to analyze students’ work samples collaboratively using a protocol that identifies important math features, anticipates misconceptions, gives descriptive feedback, and determines next steps for classroom instruction. Research on formative assessment and the reduction in the achievement gap will be shared.

Laura Marie Maly

Milwaukee Public Schools, Milwaukee, Wisconsin

Henry Kranendonk

Milwaukee Public Schools, Milwaukee, Wisconsin

152 A (Convention Center) capacity: 226**764****Teaching Students to Discover Algebra****(6–12) Gallery Workshop**

This presentation will focus on the activities that will help students discover algebra. The activities will be concrete, pictorial, numerical, symbolic, and graphical. Participants will make connections, model, guess, graph, use the graphing calculator, and just have fun with algebra.

Bettye D. Forte

Consultant, Arlington, Texas

202 A (Convention Center) capacity: 368**765****Access for All: Reading Comprehension Strategies for the Understanding and Solving of Mathematics Tasks****(6–12, Teacher of Teachers) Gallery Workshop****TODOS: Mathematics for ALL presentation**

In this hands-on, interactive presentation, participants will learn how to model autonomous and cooperative reading comprehension strategies to help secondary school students—especially English language learners—understand and solve written mathematics tasks.

Carl Lager

TODOS: Mathematics for ALL; University of California, Santa Barbara, Santa Barbara, California

103 A (Convention Center) capacity: 232**766****Making Sense of Triangle Congruence and Similarity: Six Models for Classroom Demonstrations****(6–12, Teacher of Teachers) Gallery Workshop**

Participants will construct six models for triangle congruency theorems. Students from the presenter’s school and area businesses cooperated to produce a kit of wooden dowels, plastic angles, and flexible connectors to be attached with hot glue guns. The presenter will discuss using models to increase students’ geometric insights and understanding.

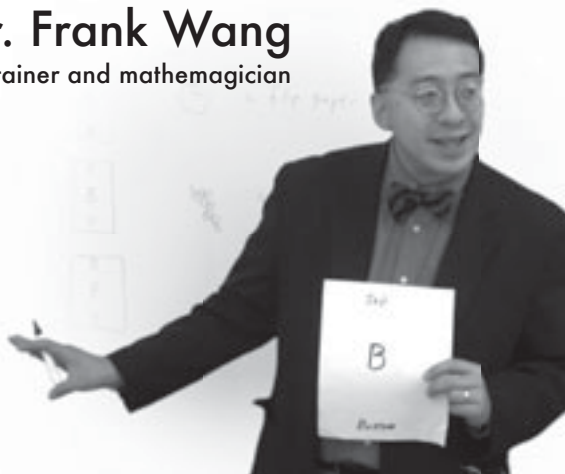
Charlene Keen

Dauphin County Technical School, Harrisburg, Pennsylvania

204 A/B (Convention Center) capacity: 227

Dr. Frank Wang

edutainer and mathematician



Hear Dr. Wang give his talk **Keys to Successful Teaching** (Session 768) at 11 am, Saturday, April 25, 2009 in Room 207B at the Convention Center.

Teacher Testimonials:

Thank you for your message. I have to tell you that your session was the best! I think it made the conference for me.

— Patricia U., Asheboro, North Carolina
2005 NCTM Annual Meeting

Thank you for the inspiring, practical, thoughtful, and thought-provoking presentation on Saturday morning. You were definitely worth 'sticking around for.'

— Carol Ann D., Helena, Montana
2005 NCTM Annual Meeting

Thank you for an amazing presentation that really affected me. Your presentation moved me to tears because as I told you at the end of your presentation, I failed math all my life and now am working on my doctorate in education with a focus in mathematics ... again thank you for your amazing and inspiring presentation.

— Cris G., Weslaco, Texas
2008 NCTM Regional Meeting, OKC, OK

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767

Play-Doh®, Video, and More: Activities for Calculus

(9–12) Gallery Workshop

Activities will be presented that help students visualize or conceptualize calculus concepts including Riemann sums, solids of known cross sections, volume of solids of revolution, related rates, and more. Projects designed for after the AP exam will be shared.

Becky Bride

Palm Harbor University High School, Palm Harbor, Florida

Kathryn Brewer

Palm Harbor University High School, Palm Harbor, Florida

201 (Convention Center) capacity: 326

11:00 a.m.–12:00 noon

768

Keys to Successful Teaching: Turning Research into Practice

(General Interest) Session

With heart and humor, the speaker (aka “the Robin Williams of Math”), will outline five research-based, easy-to-apply, yet powerful techniques for improving teaching effectiveness. Laugh and cry with him as he tells his own compelling story and about his mission to make math understandable to students of all ages and abilities.

Frank Yu-Heng Wang

Wang Education LLC, Plano, Texas

207 B (Convention Center) capacity: 426

769

RTI or MTI: Special Education and Response to Intervention (RTI) Implications for Mathematics Educators

(General Interest) Research Session

The No Child Left Behind Act and the 2007 Individuals with Disabilities Education Act have brought effective and preventive intervention models to grades K–12 programs through RTI. These models can be applicable to Mathematics Interventions. This presentation will explore RTI models to identify instructional methods that can be transferred to develop math interventions.

Saul Duarte

Los Angeles Unified School District, Los Angeles, California

149 A/B (Convention Center) capacity: 174

770**Primarily Problem Solving****(PreK–2) Session**

The focus of math instruction should be developing problem solvers. This hands-on session will focus on lessons across the strands that address the standards using multiple problem-solving strategies. Participants will explore how problem solving can link focal points in the primary grades.

Myrna Mitchell

Fresno Pacific University, Fresno, California

156 (Convention Center) capacity: 156**771****Math Manipulative Mania****(PreK–2) Session**

This presentation will show how to incorporate the use of manipulatives with math instruction for early childhood grades. It will cover how to set up the manipulative stations, materials that can be used, and lessons and activities that can be taught using manipulatives.

Carmen Rochelle Slater

Dallas Independent School District, Dallas, Texas

158 A/B (Convention Center) capacity: 137**772****Maximizing Early Number Sense****(PreK–2, Teacher of Teachers) Session**

Young children don't develop their sense of quantity and number in a vacuum, yet the typical early childhood environment has few mathematical problem-solving opportunities deliberately built into the children's activity options. Learn how to fill the classroom with fun, child-centered mathematical possibilities using simple, inexpensive materials.

Greg Nelson

Bridgewater State College, Bridgewater, Massachusetts

144 C (Convention Center) capacity: 156**773****A Recipe for Learning Math: Add a Dash of Cyberchase to Your Daily Teaching!****(PreK–5, Teacher of Teachers) Session**

Make *Cyberchase* a class act! *Cyberchase* materials will be tied to your state standards—clips, online resources, and hands-on activities—supporting the mathematics you are teaching! Panelists will highlight ways you can use these free materials. Handouts and materials will be provided.

L. Carey Bolster

Bolster Education, Dunedin, Florida

Sandy Goldberg

WNET Channel Thirteen, New York, New York

Corey Nascenzi

WNET Channel Thirteen, New York, New York

Maria Pena

Ernst and Young, New York, New York

140 A (Convention Center) capacity: 154**774****Eliminate Geometry as a Gatekeeper by Involving Students in Dynamic Investigations****(3–5) Session**

Geometry receives minimal elementary school time, limiting students' academic options. This session will offer investigations to help students explore number-shape relationships visually, using Cabri and Cabri Elem, which open doors for exploration in a dynamic environment with real-time feedback. Investigations will integrate classroom experiences.

Janet V. Smith

Franklin McKinley School District, San Jose, California

Barbara Pence

San Jose State University, San Jose, California

102 A (Convention Center) capacity: 144**775****Differentiating Instruction for the Success of Every Child****(3–5) Session**

Come learn ways to reach every student, especially the culturally and linguistically diverse students, in ten minutes or less. These ready-to-use activities integrate vocabulary, writing, and conceptual development into mathematics.

Jennie Marie Bennett

NUMBERS Mathematics Professional Development, Houston, Texas

204 C (Convention Center) capacity: 135

776**Rates: Problem Solving Questions to Improve Multiplicative, Proportional, and Algebraic Reasoning****(6–8) Session**

Understanding rates is important for understanding number sense, measurement, algebra, and applications in school and in life. The speaker will share Problem-of-the-Day activities developed for middle school. The goal is to improve multiplicative, proportional, and algebraic reasoning for success on grade 8 standardized tests and in life.

James Olsen

Western Illinois University, Macomb, Illinois

146 C (Convention Center) capacity: 414**777****Build Strong Understanding of Proportional Relationships: Help English Learners and All Students Use Many Representations****(6–8) Session****TODOS: Mathematics for ALL presentation**

Proportional relationships are a crucial foundation for success with formal algebra, yet American students have little proportional sense. Come explore a variety of sensible representations and enjoyable activities that enable all students, including English learners, to communicate and think proportionally while enhancing their number sense.

Debra Coggins

TODOS: Mathematics for ALL; Richmond High School, Richmond, California

147 B (Convention Center) capacity: 255**778****Take a Modeling Journey with Area****(6–8) Session**

This session offers a journey through a middle school curriculum illustrating how area is the foundation model for whole-number multiplication, operations with fractions, probability, distance traveled, and more. Participants will investigate problems that challenge students while using manipulatives to help visual and cognitive understanding.

Linda M. Giauque

Thompson R2-J School District, Loveland, Colorado

150 B (Convention Center) capacity: 248**779****Manipulative Materials and Algebra: Making the Connection****(6–8) Session**

This session will offer participants hands-on activities in which algebra tiles are used to solve equations in algebra. Teachers should know that those questions (solve the linear equation, factor and solve the quadratic equation, and so on) that students sometimes struggle with can be solved in a fun and easy way using the algebra tiles.

Bobby Ojose

University of Redlands, Redlands, California

202 B (Convention Center) capacity: 418**780****The Little Black Dress of Every Middle School Math Program—MATHCOUNTS****(6–8) Session**

MATHCOUNTS materials are appropriate for any occasion! You'll receive materials and tips for hosting a math club for a year. The presenter shares ways to adapt the materials for daily classroom use. Finally, this session shows you how to "dress it up" for students craving the challenges of competition. MATHCOUNTS is a staple every teacher must have!

Kristen Chandler

MATHCOUNTS, Alexandria, Virginia

Ballroom A (Convention Center) capacity: 1442**781****Online Technology Applications That Can Be Used to Teach Middle School Mathematics?****(6–8) Session**

The presentation will identify and demonstrate the power of online learning resources—for middle school level mathematics and science—for producing engaging and interactive learning environments.

Gary Glen Bitter

Arizona State University, Tempe, Arizona

Ballroom B (Convention Center) capacity: 1440**782****Every Student Can Learn Algebra****(6–12) Session**

Learn to teach basic math skills while teaching new algebra topics through concept development and linking. Fractions, multidigit arithmetic, factoring, rational expressions, polynomial arithmetic, and more will be easy for your students. Say goodbye to the excuse, "I can't teach, because my students can't _____."

Derek Edward Fialkiewicz

Bonanza High School, Las Vegas, Nevada

145 B (Convention Center) capacity: 278

783**Discrete Mathematics Is Essential Mathematics in the Twenty-first Century: Rationale and Examples for High School****(6–12) Session**

Come see the math of networks and scheduling; passwords, PINs, and pizzas; voting and ranking; downloads, e-commerce, and Googling; and compound interest and spreadsheets. Students learn problem solving, reasoning, optimization, modeling, and math skills. Discrete math is engaging, relevant, recommended, and essential for all.

Eric W. Hart

Maharishi University of Management, Fairfield, Iowa

146 A (Convention Center) capacity: 423**784****Show and Tell: Teaching with Algebra Tiles!****(6–12) Session**

This session is designed to aid algebra teachers in becoming familiar with the uses and applications of algebra tiles, including modeling integers and operations on integers, modeling polynomials, and manipulating operations in algebraic expressions. The session includes visuals suitable for teachers, curriculum specialists, and staff developers.

Sandra Richardson

Lamar University, Beaumont, Texas

152 B (Convention Center) capacity: 262**785****Differentiated Instruction: How Web 2.0 and Other Technologies Can Help****(9–12) Session**

Differentiating instruction is a challenge. How can we adapt tech to help all learners? Through wikis and more, students can be more productive, show more interest, and take on more responsibility. To paraphrase Tomlinson, “all learners need your energy, your heart, and your mind”—and your tech savvy. Paper, electronic resources will be available.

Calvin J. Armstrong

Appleby College, Oakville, Ontario, Canada

103 B (Convention Center) capacity: 164**786****Take It to the Limit****(9–12) Session**

Challenge precalculus and calculus students through meaningful projects. Imagine yourself in a hot air balloon, or in an underground cavern, or building a parabolic solar cooking device, or in a dramatic presentation. Students of diverse populations take calculus concepts to the limit through multiple representations.

Luajean Bryan

Walker Valley High School, Cleveland, Tennessee

203 A/B (Convention Center) capacity: 150**787****Getting a Head Start on College Mathematics through Dual Enrollment****(9–12, Higher Education) Session**

The University of Louisiana at Monroe began a dual enrollment program in the fall of 2005. Students can earn credit in college algebra, trigonometry, statistics, and calculus. The presenters will share information about the organization of the program and the subsequent outcomes of students who completed the dual enrollment courses.

Rhonda Adams-Jones

University of Louisiana at Monroe, Monroe, Louisiana

Marilyn McIntosh

University of Louisiana at Monroe, Monroe, Louisiana

209 A (Convention Center) capacity: 107**788****AP Calculus Students' Understanding of Rate of Change: Implications for Teachers and Curriculum Developers****(9–12, Higher Education) Research Session**

This session addresses how AP calculus students completing four years of integrated or single-subject mathematics perform on calculus readiness items; what solution strategies and errors AP students demonstrate on open-ended, rate-of-change tasks; and what some implications are for secondary school and college teachers and curriculum developers.

Dawn Teuscher

Arizona State University, Polytechnic Campus, Mesa, Arizona

151 B (Convention Center) capacity: 284**Future Annual Meetings:****San Diego, California, April 21–24, 2010****Indianapolis, Indiana April 13–16, 2011****Philadelphia, PA April 25–28, 2012**

11:00 a.m.–12:00 noon

789

The Perfect Marriage: The Office of Mathematics and the Department of Special Education

(Teacher of Teachers) Session

Come examine how one district is training special-education teachers and paraeducators in mathematics content and the use of technology. Participants will walk away with a toolkit of resources for the development of a one-week summer institute that can be easily tailored to meet the needs of the educators in different districts.

Karen Vaden

Howard County Public Schools, Ellicott City, Maryland

Roberta Girardi

Howard County Public Schools, Ellicott City, Maryland

209 B/C (Convention Center) capacity: 213

12:00 noon–1:30 p.m.

790

Scaffolding Math in Young Children during Group Time Activities

(PreK–2, Teacher of Teachers) Gallery Workshop

Gain confidence by participating in this hands-on presentation on how to scaffold early math concepts during group-time activities. You will learn to recognize math content areas in young children's play, identify children's developmental levels, and practice research-validated strategies that promote supportive interactions about math.

Elena Malofeeva

High/Scope Educational Research Foundation, Ypsilanti, Michigan

Beth A. Marshall

High/Scope Educational Research Foundation, Ypsilanti, Michigan

145 A (Convention Center) capacity: 244

791

Introducing the Concept of Unit to Young Children

(PreK–5) Gallery Workshop

An illustrated story and accompanying activities introduce young children to the concept of unit. See how unit and number are introduced after children are familiar with comparison of quantities and the meaning of addition and subtraction. Participants will use continuous quantities and learn one way in which unit is taught to young children.

Fay Zenigami

Curriculum Research and Development Group, University of Hawaii, Honolulu, Hawaii

Claire Okazaki

Curriculum Research and Development Group, University of Hawaii, Honolulu, Hawaii

101 (Convention Center) capacity: 170

792

Universal Design: Visual Models for Number-Sense Instructions That Are Enriching and Empowering for All

(PreK–5) Gallery Workshop

Do you have a fourth grader who still uses his fingers to add? Are you worried that making things easier for some may slow down others? Come learn about visual designs that could empower all students. Attendees will come away with a resource packet full of design ideas and templates ready to be applied to their math curriculums and classrooms.

Shuk-kuen Tse

Brookline Public Schools, Boston, Massachusetts

159 A/B (Convention Center) capacity: 109

793

Assessment for All: Using Performance Tasks to Encourage Accountability, Equity, and Deep Understanding

(PreK–5, Teacher of Teachers) Gallery Workshop

Had it up to here with paper-and-pencil tests? Performance tasks can engage small groups in meaningful assessment while allowing for individual accountability. You'll leave with six ready-to-use performance tasks, experience in creating your own tasks, and 83 engaging ideas to get you started using performance tasks in your classroom.

Carrie S. Cutler

University of Houston, Houston, Texas

151 A (Convention Center) capacity: 291

794

Performance Tasks: Bridging Classroom Instruction and Statewide Assessment

(3–5) Gallery Workshop

New Jersey teachers and teacher candidates have been developing, scoring, and revising mathematics performance tasks to complement current standardized statewide assessments. How can you get started?

Dorothy Varygiannes

Monmouth University, West Long Branch, New Jersey

204 A/B (Convention Center) capacity: 227

795

Making Geometry Accessible for All through Activities: Implications from Japanese Textbooks

(3–5, Teacher of Teachers) Gallery Workshop

Geometry in elementary school must engage students actively. Come experience some of the geometry activities in Japanese textbooks. Let's discuss how we can make geometry accessible for all through hands-on activities.

Tad Watanabe

Kennesaw State University, Kennesaw, Georgia

102 B (Convention Center) capacity: 204

796**Guess Who?****(3–8) Gallery Workshop**

Can you guess who the famous African American is? Using graphing calculators and a list of ordered pairs, teams will try to guess who their person is as they compare their graphs of face outlines to actual photographs. Once their person is discovered, teams will explore history, translations, and dilations.

Kristy Mann

Alabama Math, Science, and Technology Initiative, Auburn, Alabama

150 A (Convention Center) capacity: 226

797
**Developing Activities Supporting NCTM's
Curriculum Focal Points for Algebra in the
Middle School**
(6–8) Gallery Workshop

A hands-on presentation will lead teachers through activities that develop students' understanding of rate of change. Discussion will include pedagogical considerations of a developmental approach to math. Participants will collect data, forming patterns represented by algebraic functions.

Kevin Huxel

Northwest Local School District, Cincinnati, Ohio

Berchie Holliday

Retired, Silver Spring, Maryland

144 B (Convention Center) capacity: 96

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SATURDAY

**798**

Translating from Words to Symbols: Strategies for Supporting All Students in Algebra

(6–8) Gallery Workshop

All students need to be able to move flexibly among representations. Understanding mathematics language is difficult, particularly for those that are English language learners or struggling readers. This session provides activities and strategies for helping students understand written expressions and represent them symbolically.

Jennifer M. Bay-Williams

University of Louisville, Louisville, Kentucky

147 A (Convention Center) capacity: 243

799

Bring All Students into the Folds of Geometry through Origami

(6–12) Gallery Workshop

Participants will actively engage in geometry by folding an open-faced hexahedron and a skeletal octahedron. Concepts of coordinate trihedral, parallel, perpendicular, and skew lines, vertices, edges, truncation, and duality will be modeled. Relationships in similar objects among side lengths, perimeters, areas, and volumes will be examined.

Nancy E. Bergfeld

Valley Park School District, High Ridge, Missouri

146 B (Convention Center) capacity: 340

800

Pi Dough, Homemade Pi, and Celebrating Pi Day!

(6–12) Gallery Workshop

Pi is an irrational number with a rational explanation. Come explore many hands-on activities designed to enrich students' understanding of pi and its origin while ensuring a nonterminating day of fun in the classroom! Activities include Archimedes' method for estimating pi (Pi Dough), the Buffon needle experiment, pi jewelry, and many more!

Lauren Anne Flood

MS 223 Laboratory School of Finance and Technology,
Bronx, New York

Courtney Ferrell

Bronx Theatre High School, Bronx, New York

201 (Convention Center) capacity: 326

801

Counting: It's Not Just for Breakfast Any More

(6–12) Gallery Workshop

Counting problems are often quite accessible, but offer multiple elegant and illuminating solutions. Explore how, in algebraic and geometric contexts, they can develop students' habits of mind in representation, solving problems, and creating proofs. Come see how lattices, candies, and tesseracts can help engage and challenge your students!

Sendhil Revuluri

Chicago Public Schools, Chicago, Illinois

206 (Convention Center) capacity: 323

802

Hands-On, Minds-On Geometry

(9–12) Gallery Workshop

Participate in some fun, quick, geometry activities that will increase students' interest and teachers' enthusiasm by engaging students actively. Discover how manipulatives will spice up your teaching and help your kids retain what they learn.

Gary Kubina

Retired, Mobile, Alabama

140 B (Convention Center) capacity: 125

803

Using Algebra Tiles from Polynomials to Factoring

(9–12) Gallery Workshop

Learn how to make factoring into a concrete visual experience for your students. Teachers will have a chance to explore algebra tiles and learn how to use them to show algebraic multiplication and factoring.

Barbara Reed

El Camino High School, Oceanside, California

154 A/B (Convention Center) capacity: 162

804

I Did Everything Right, But My Graph Isn't There!

(9–12) Gallery Workshop

Join us to explore some of the challenging aspects of teaching and learning with graphing calculators in the classroom. Find out what to do when the graphing calculator leads your students astray.

Mary Ann Matras

East Stroudsburg University, East Stroudsburg, Pennsylvania

208 A/B (Convention Center) capacity: 95

12:00 noon–1:30 p.m.



805

Use NCTM Journals to Build Mathematics Professional Learning Communities

(Teacher of Teachers) Gallery Workshop

Participants will actively engage in exploring enhanced articles from NCTM journals as a professional development tool. Facilitators will model the process of using the journal articles to build school-based, professional learning communities.

Professional Development Services Committee

National Council of Teachers of Mathematics, Reston, Virginia

103 A (Convention Center) capacity: 232

12:30 p.m.–1:30 p.m.



806

New Directions for Mathematics Excellence in Urban Schools: National Panel Discussion

(General Interest) Session

Benjamin Banneker Association presentation

This discussion will bring together representatives from several of the nation's urban districts to discuss new and innovative initiatives in mathematics, as well as pressing challenges.

Jaqueline Leonard

Benjamin Banneker Association, Chicago, Illinois

144 C (Convention Center) capacity: 156

807

Built by Design: Block Building, Focusing on NCTM's Curriculum Focal Points

(PreK–2) Session

Join the speaker at the block center. She will discuss research in geometry and spatial ability and the prekindergarten-kindergarten focus, and play with blocks while learning the skills and knowledge that they demonstrate. Using videos, learn to assess geometry and other content and developmental skills at the block centers.

Nicole Locher Andrews

University of Houston, Houston, Texas

203 A/B (Convention Center) capacity: 150

808

It's a Jungle out There! Animal-Themed Algebra Activities That Span the Math Curriculum

(PreK–2) Session

Integrate math with animal-themed activities that teach algebra concepts related to pattern, numbers, and computational skills, as recommended by the National Math Panel, while also encouraging children's natural wildlife curiosity. See the wild world of math come alive through thematic learning about favorites like jungle animals and insects.

Susan L. Hansen

Woodland Primary School, Gurnee, Illinois

207 B (Convention Center) capacity: 426

809

From One Representation to Another: Improving Students' Representational Competence

(PreK–2) Research Session

Representational competence in elementary school classrooms will be addressed by sharing results of a study that examined the relationship between one teacher's instructional decisions and students' ability to translate among representations. Classroom video and student work will be examined.

Anne Marie Marshall

University of Illinois at Chicago, Chicago, Illinois

Alison Castro-Superfine

University of Illinois at Chicago, Chicago, Illinois

Reality Canty

University of Illinois at Chicago, Chicago, Illinois

209 B/C (Convention Center) capacity: 213

810

MathCamp: An Integrated Approach to Teaching Elementary School Mathematics Outdoors

(PreK–5) Session

Every student at Liberty School spends a week of the school year outdoors in the central courtyard exploring all areas of the curriculum with a mathematics focus. Come see how MathCamp started, how the curriculum was developed, and the fun students have by taking math outdoors. The presentation will include a sample day at each grade level.

Phyllis Bryar

Springfield Public Schools, Springfield, Massachusetts

Cynthia Jean Romaniak

Springfield Public Schools, Springfield, Massachusetts

151 B (Convention Center) capacity: 284

**Don't miss the
Closing Session on
Saturday afternoon
with featured speaker
Ron Clark.**

SATURDAY

811**Glyphing, the Math Way!****(PreK–5) Session**

Glyphs are pictorial representation of given data. Participants will discover the world of glyphing, and how to use glyphs to help gather data for mathematical concepts. Participants will receive handouts and experience making a glyph and learning how to implement them to enhance their student's mathematical experiences.

Cindylynn A. Khan

Spotsylvania County Schools, Spotsylvania, Virginia

149 A/B (Convention Center) capacity: 174**812****Using Rich Problems to Reach All Learners****(3–8) Session**

Rich problems invite a variety of solution strategies. They provide an effective vehicle for accommodating a range of levels and learning styles, and for addressing the Process Standards! The presenters share strategies for using problem solving to build skills and concepts for struggling students and to provide challenge for those who soar.

Claire Mead

The Math Forum @ Drexel, Philadelphia, Pennsylvania

Mary Taylor

Israel Loring Elementary School, Sudbury, Massachusetts

103 B (Convention Center) capacity: 164**813****Multiplication and Repeated Addition: Raising the Bar on Teachers' and Students' Understanding of Multiplicative Reasoning****(3–8, Teacher of Teachers) Session**

Why do 3 shirts \times 4 pants make 12 outfits? Where do the square inches come from when one multiplies two lengths? Understanding the structure of multiplication for whole numbers and rational numbers in different situations is necessary for teachers to help students transition from additive reasoning towards multiplicative reasoning.

Chris Lowber

Jefferson County Schools, Louisville, Kentucky

Victor Bruce Brown

Kentucky Center for Mathematics, Eastern Kentucky University, Richmond, Kentucky

158 A/B (Convention Center) capacity: 137**814****A Look inside the Autistic Mind****(6–8) Session**

This session will present research on what autistic mathematics students can accomplish and strategies to assist teachers to include autistic students in their classroom, as well as brain research on how the adolescent brain works. Practical strategies for including the autistic student in the middle school classroom will be offered.

Kathy Martin

Wicomico Middle School, Salisbury, Maryland

Eleanor Martin Ennis

Wicomico Middle School, Salisbury, Maryland

Michele T. McGoogan

Bennett Middle School, Salisbury, Maryland

146 A (Convention Center) capacity: 423**815****Using Technology to Create an Inclusion Classroom in the Middle School****(6–8) Session**

New Jersey's Include project focuses on creating classrooms in which all students, including English language learners and those with mild disabilities, use technology to improve academic achievement. The presenters will share uses of Sketchpad, applets, spreadsheets, and more in this program. Laptops with battery power are welcome.

Annie Fetter

The Math Forum @ Drexel, Philadelphia, Pennsylvania

Michelle Bowen-Ashwin

Woodlynne School, Woodlynne, New Jersey

152 B (Convention Center) capacity: 262**816****Music with Your Math?****(6–8) Session**

Songs are a great way to reinforce the steps for an algorithm, or to enhance a lesson. With middle schoolers, songs and stories together get the lesson to stick. Come learn songs about solving two-step equations, dividing fractions, adding decimals, and more. You'll leave with a CD of songs, lyrics, and new ideas for hooking your students.

Mia Abeles

Paul Public Charter School, Washington, D.C.

Ali Clark

American University, Washington, D.C.

Ballroom B (Convention Center) capacity: 1440



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Jay McTighe, co-author of the Understanding by Design series

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817**Algebra in Action for All: Inquiry-Based Activities for Coaches and Teachers****(6–8, Higher Education, Teacher of Teachers) Session**

Ready-to-use, inquiry-based algebra activities used in an institute for middle school mathematics coaches and teachers will be provided. High expectations of these activities support all students and their learning. This model of professional development that integrates preservice and in-service teacher education will be shared.

Jan Yow

University of South Carolina—Columbia, Columbia, South Carolina

Elizabeth Ratliff

University of South Carolina—Columbia, Columbia, South Carolina

156 (Convention Center) capacity: 156**818****Engaging Middle School Students in Project-Based Mathematics****(6–8, Teacher of Teachers) Session**

In this session, the speaker will share four of her (and her students') favorite mathematics projects. Descriptions of projects, rubrics, samples of students' projects, and suggestions for implementation will be included. Projects will address topics in geometry and probability.

Winnie J. Peterson

Kutztown University of Pennsylvania, Kutztown, Pennsylvania

147 B (Convention Center) capacity: 255**819****Managing and Maximizing Multiple Methods****(6–8, Teacher of Teachers) Session**

Encouraging students to generate multiple solution methods to a problem is important, but what do we do when it is time to discuss the methods with the class? In this session you will solve a problem using more than one solution method, make mathematical connections among the methods, and plan a class discussion about the methods.

Belinda Thompson

LessonLab Research Institute, Santa Monica, California

209 A (Convention Center) capacity: 107**820****Facilitating Preservice Elementary School Teachers' Understanding of Pedagogy****(6–8, Teacher of Teachers) Session**

Results of research to improve the effectiveness of mathematics methods courses for preservice grades K–8 teachers will be reported. Intervention consisted of methodology interwoven with mathematics content instruction to provide meaningful anchoring mathematics situations for desirable pedagogy as advocated by the NCTM *Standards* documents.

Gerald Ray Fast

University of Wisconsin—Oshkosh, Oshkosh, Wisconsin

204 C (Convention Center) capacity: 135**821****The Integration of Mathematics and Art: A Model for Mathematical Equity in Your Classroom****(9–12) Session**

This presentation will focus on a multitude of different artistic projects (modular origami, tensegrity, slice-a-form, and so on) to bring into your classroom to make the covered mathematics more accessible to your students. Handouts and Web resources will be provided.

Pat Flynn

Olathe East High School, Olathe, Kansas

Brock Wenciker

Shawnee Mission School District, Overland Park, Kansas

102 A (Convention Center) capacity: 144**822****Social Awareness through Data****(9–12) Session**

No time in your curriculum to address societal concerns? Open students' eyes to social issues without proselytizing by choosing the data that you use. Cover linear and exponential functions, regression, and combinatorics and raise awareness at the same time. A wide variety of classroom-tested questions and data sources will be shared.

Michael Buescher

Hathaway Brown School, Cleveland, Ohio

140 A (Convention Center) capacity: 154

823**Connecting Algebra and Geometry with Symbolic Geometry Technology****(9–12) Session**

The presenter will share several problems developed for symbolic geometry technology. The problems focus on developing students' skills in recognizing and using multiple representations while they learn varied topics in geometric transformations of functions and optimization usually covered in Algebra 2 and precalculus.

Irina Lyublinskaya

City University of New York—College of Staten Island,
Staten Island, New York

150 B (Convention Center) capacity: 248**824****Space: An Advanced Geometry Elective after Algebra 2****(9–12) Session**

This session will discuss topics from a class the speaker has taught biennially: symmetry in depth, transformations, dimension, using Cabri 2- and 3-D software, building with Zome, and reading Abbott's *Flatland*.

Henri Picciotto

Urban School of San Francisco, San Francisco, California

202 B (Convention Center) capacity: 418**825****Multistate End-of-Course Exam Collaboration: Achieve's ADP Algebra 1 and Algebra 2 Exams****(9–12, Higher Education) Session**

A consortium of states is partnering with Achieve and Pearson to create common mathematics exams. The Algebra 2 exam was first administered in 2008; the Algebra 1 exam, in 2009. The exams' development, format, and released items will be shared, as well as plans for its standard setting and use in higher education.

Tracy Halka

Achieve, Inc., Washington, D.C.

145 B (Convention Center) capacity: 278**826****From Calculators to Computers: A Practical Approach to Using Technology in the Classroom****(9–12, Higher Education) Session**

During this interactive session, participants will explore how to use different technologies to teach concepts, check solutions, provide practice, and review. The technologies will focus on the TI graphing calculator, PowerPoint, and a computer-based learning system.

Joan M. Raines

Middle Tennessee State University, Murfreesboro, Tennessee

Linda Clark

Middle Tennessee State University, Murfreesboro, Tennessee

Ballroom A (Convention Center) capacity: 1442**827****GeoGebra and Fermat's Forgotten Method****(9–12, Higher Education, Teacher of Teachers) Session**

Fermat's method for finding relative maximums and minimums of polynomial functions becomes accessible to algebra students with GeoGebra, software that is free to all and user-friendly. See GeoGebra's computer algebra system and show how it complements GeoGebra's geometry in the study of important mathematics.

Maurice Joseph Burke

Montana State University—Bozeman, Bozeman, Montana

Markus Hohenwarter

Florida State University, Tallahassee, Florida

146 C (Convention Center) capacity: 414

828



Teaching through Adversity: Facing Challenges and Making a Difference

Closing Session

Remarks by NCTM President
Henry S. Kepner, Jr.

Sponsored by Houghton Mifflin
Harcourt

Ron Clark will share his journey from teaching in a low-income, rural area of North Carolina to the inner-city streets of Harlem, New York. He will inspire with stories of how his students made outstanding growth in test scores, conducted projects garnering worldwide attention, and were invited to the White House to be honored by the President.

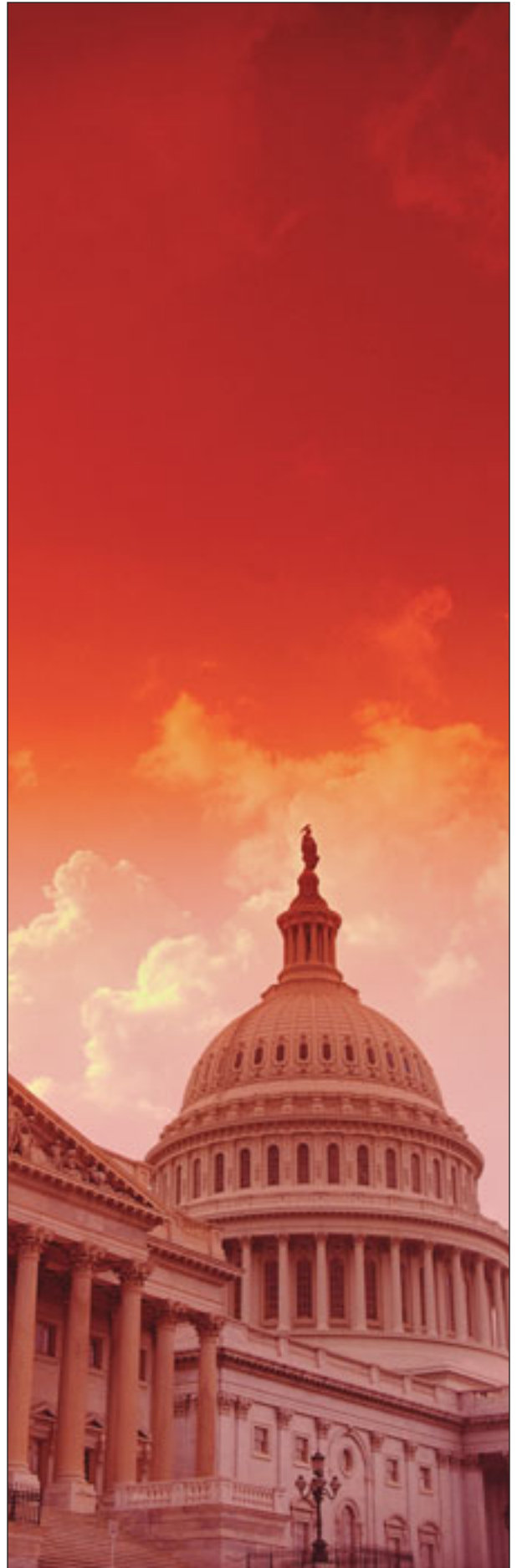
Clark has been called “America’s Educator.” In 2000, he was named Disney’s American Teacher of the Year. He is a New York Times best selling author, and his classes have been honored at the White House on three separate occasions. Clark’s teaching experiences in New York City are the subject of the uplifting film, *The Ron Clark Story*. Clark brings charisma, energy and devotion to the education profession. He has worked with minority students in low-income areas, conducting innovative projects with his students that garnered worldwide attention. Clark’s humorous, heartwarming stories deliver a message of hope, dedication, and the will never to let anything stand in the way of your goals or dreams. Most recently he founded The Ron Clark Academy, a new, privately funded school serving students from inner-city Atlanta.

Ron Clark

The Ron Clark Academy, Atlanta, Georgia

Ballroom B (Convention Center)

SATURDAY



Registration and Access to Presentations

Badges must be worn to enter all presentations and the NCTM Exhibit Hall. Please be aware that a \$10 fee will be charged for replacement badges.

By registering for the NCTM 2009 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 Presession

The Research Presession, 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 in the Walter E. Washington Convention Center prior to the NCTM 2009 Annual Meeting and Exposition. The Research Presession Registration Area is on Concourse A.

The opening session will be held at 7:00 p.m. on Monday, April 20. Concurrent sessions will be held from 8:30 a.m. to 6:00 p.m. on Tuesday, April 21, and from 8:30 a.m. to 4:45 p.m. on Wednesday, April 22. There is no additional fee for on-site registration for the Research Presession. Registered Annual Meeting attendees may attend Wednesday's Research Presession presentations at no extra charge.

For Your Child's Safety

Due to the size and nature of the NCTM 2009 Annual Meeting and Exposition, this event is not the appropriate setting for children under 16 years of age. 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 Walter E. Convention Center.

Member Showcase

Everything you need to know about NCTM Membership—and how we can help you as a teacher (and in your classroom)—is at the Showcase, from teachers' resources, including activities, lessons, and sample journals to member certificates, personalized news releases, and more! Whether you are a new member, a current member, or thinking of joining, stop by to learn how NCTM can help you today!

Also at the Member Showcase, the NCTM journal editors and members of the Editorial Panels will be available to discuss the journals and answer any questions. Prospective authors are especially encouraged to stop by. A schedule will be available in the Onsite *Daily News* and in the Member Showcase.

Stop by the Member Showcase on the L Street Bridge at the Walter E. Washington Convention Center.

Teaching Diverse Groups of Students is a Challenge

Are you faced with teaching mathematics to increasingly diverse groups of students in your classroom? Learn how connecting real-life activities with mathematical concepts, and building on students' knowledge and experiences, can help them excel in the classroom. These books provide:

- Articles written by teachers
- Instructional strategies
- Classroom activities

Visit www.nctm.org/catalog for more information or to place an order. Books also will be available for purchase at the NCTM Bookstore during the annual meeting.

Responding to Diversity
Mathematics for Every Student
GRADES 6-8

Responding to Diversity
Mathematics for Every Student
GRADES 9-12

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Bookstore

Save 25 percent off the list price on all purchases made at the onsite NCTM Bookstore, located in the West Registration area of the Walter E. Washington Convention Center. View first-hand the nearly 200 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: In order to be considered exempt from sales tax in the NCTM Bookstore, you must provide a copy of a Washington, D.C., tax exemption certificate, issued by the district, at the time of purchase. NCTM is required by law to keep a copy of the certificate, and will be unable to return it to you. In order to qualify, payment must be made with a purchase order, check, or credit card from the school to which the Washington, D.C. Exemption Certificate is issued. Personal checks, personal credit cards, and cash cannot be accepted in conjunction with school 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.

Sponsored in part by BeAnActuary.com.

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 Walter E. Washington 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 L Street shuttle bus area.

Tour Information

An exciting array of sightseeing tours will be available to NCTM attendees and guests through NCTM's shuttle company. For the complete offering, including descriptions, prices, dates and times, please visit the tour desk located in the L Street South Lobby area at the Walter E. Washington Convention Center.

Information Booth

The NCTM Information Booth will be located in the East Registration area of the Walter E. Washington Convention Center, where local staff from Washington, D.C., will be on hand to answer any questions you may have and to 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 Washington, D.C.! Stop by the Restaurant Reservations desk located in the Grand Lobby at the Walter E. Washington Convention Center. The friendly staff will be available to offer recommendations and make reservations.

Bag and Coat Check

A bag and coat check will be available for you to store your belongings during the conference hours for a nominal charge of \$3.00 per item. You can check your items at the bag check located in the West Registration area of the Walter E. Washington Convention Center. Hours: Thursday, April 23, and Friday, April 24, 7:30 a.m. – 5:00 p.m. and Saturday, April 25, 7:30 a.m. – 3:00 p.m. 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 at the Walter E. Washington Convention Center in Exhibit Hall D during the NCTM program. If you need medical services while in Washington, D.C., 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 2009 Annual Meeting and Exposition. In the days following the Annual Meeting, you will receive an email 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.

Resources for the Mathematics Educator... in the NCTM Bookstore

View first-hand the nearly 200 publications that NCTM has to offer. These books are written *by* mathematics educators *for* mathematics educators and provide teaching tips, activities, and professional development strategies.

All conference attendees will receive 25% off the list price on all NCTM Bookstore purchases! Visit the Bookstore to check out the latest publications, series, and specialty products NCTM has to offer.

New Resources

Mathematics for Every Student: Responding to Diversity, Grades 6-8

Mathematics for Every Student: Responding to Diversity, Grades 9-12

Focus in Grades 6-8: Teaching with Curriculum Focal Points

Understanding Geometry for a Changing World: 71st Yearbook

Navigating through Reasoning and Proof in Grades 9-12

Popular Series

Navigations Series

This popular series translates the five strands of the *Principles and Standards* into action and illustrates the growth and connectedness of content areas from prekindergarten through grade 12.

Empowering the Beginning Teacher

This series was compiled to help new teachers reach their full potential as mathematics educators, thereby improving the mathematics learning of their students.

Mathematics for Every Student

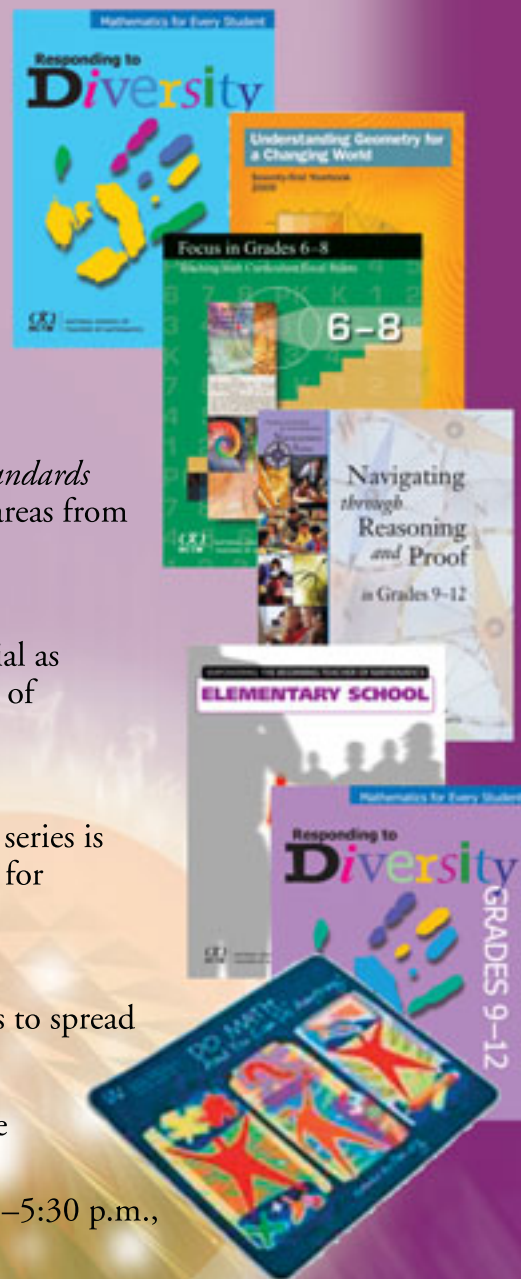
Guided by the vision of the *Principles and Standards*, this three-book series is designed to help teachers support high-quality mathematics learning for diverse student populations in the classroom.

Specialty Products

Find a variety of pencils, shirts, erasers, and other gifts and incentives to spread the importance of mathematics.

The NCTM Bookstore is located in the West Registration area of the Walter E. Washington Convention Center.

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



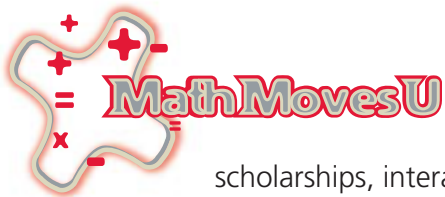
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$$A^2 + B^2 = \text{Opportunity}^2$$



At Raytheon, we know that math and science skills open up a world of opportunities. So we created MathMovesU®, a program to keep middle school students excited about math through games, contests, scholarships, interactive content and much more. We're also proud to be the 2009 title sponsor for MATHCOUNTS®, a national math enrichment, coaching and competition program.

Visit us at Booth 1223 to learn more and enter to win a \$250 gift card.

www.MathMovesU.com

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Other Group Functions

The following groups will meet during the week of the NCTM 2009 Annual Meeting and Exposition. For further information, a contact person is listed for your convenience.

AP Calculus Teachers panel discussion and reception will be held Thursday, April 23, 6:00 p.m.–8:00 p.m. in Independence F/G at the Grand Hyatt Washington. For more information please contact Lin McMullin at (214) 665-2516; e-mail lmcmullin@nationalmathandscience.org.

AP Statistics Teachers annual meeting will be held Friday, April 24, 6:00 p.m.–7:30 p.m. in Constitution B at the Grand Hyatt Washington. For more information please contact Kim Gilbert at (706) 621-2325; e-mail kingilb@uga.edu.

Benjamin Banneker Association (BBA) Regional Caucuses will be held Thursday, April 23, 8:00 p.m.–10:00 p.m. in Constitution D/E at the Grand Hyatt Washington. For more information please contact Shelly Jones at (860) 832-2857; email jonessem@ccsu.edu.

Council for Technology in Math Education (CLiME)

math and technology annual meeting will be held Thursday, April 23, 6:00 p.m.–7:30 p.m. in Lafayette Park at the Grand Hyatt Washington. For more information please contact Ihor Charischak at (914) 946-5143; e-mail ihor@clime.org.

North American Study Group on Ethnomathematics

(NASGEM) annual meeting will be held Thursday, April 23, 7:00 p.m.–9:00 p.m. in Meeting Room 3 at the Renaissance Hotel. For more information please contact Bill Collins at (315) 445-4880; email collinwj@lemoyne.edu.

TODOS: Mathematics for ALL reception will be held Thursday, April 23, 6:00 p.m.–8:00 p.m. in Congressional A/B at the Renaissance Hotel. For more information please contact Carol Edwards at (480) 699-0556; e-mail csae@cox.net.

Women and Mathematics Education (WME) annual business meeting will be held Thursday, April 23, 6:30 p.m.–10:00 p.m. in Independence B/C/D/E at the Grand Hyatt Washington. For more information please contact Marilyn Evans at (713) 433-0911; e-mail mlyne@sbcglobal.net.

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. Be sure to check out the list of exhibits and a map of the Exhibit Hall on pages 214–17.

Exhibitor Workshops

Do you want more in-depth and personal interaction with exhibitors? If you do, plan to attend the Exhibitor Workshops. These workshops will be held on Thursday, Friday, and Saturday and will offer a wide variety of topics. See the program for workshop offerings, indicated as Exhibitor Workshops before the session number.

Cyber Café & Calculation Nation™

Stop by the NCTM Cyber Café to check email or surf the Web. The Cyber Café is located near the back of the NCTM Exhibit Hall (D & E) in the Walter E. Washington Convention Center. Wireless connections are available at the Convention Center for a fee.

Calculation Nation, part of NCTM's Illuminations Project, offers online math strategy games that can be played individually or against an online opponent. Come try out a game and learn more about Illuminations and other online resources from NCTM.

2009 Annual Meeting 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 NCTM 2009 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 U.S. 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 Groups

District of Columbia Council of Teachers of Mathematics
Ella Marilyn Williams, emarilynw@aol.com

Maryland Council of Teachers of Mathematics
Julie Taylor, jltaylor3@aacps.org

Virginia Council of Teachers of Mathematics
Patricia Gabriel, pmgabriel16@aol.com

Affiliates-at-Large

Adult Numeracy Network
Denise Deagan, djdeagan@yahoo.com

Association of Mathematics Teacher Educators
Gary Martin, martiwg@auburn.edu

Benjamin Banneker Association, Inc.
Lois Moseley, loismoseley@hotmail.com

Council for Technology in Mathematics Education
Stephanie Cooperman, shc283@worldnet.att.net

North American Study Group on Ethnomathematics
Blidi Stenn, catbss@hofstra.edu

National Council of Supervisors of Mathematics
Timothy Kanold, tkanold@d125.org

Society of Elementary Presidential Awardees
Lisa Black, lisazblack@yahoo.com

TODOS: Mathematics for ALL
Bob McDonald, mac@todos-math.org

Women and Mathematics Education
Dorothy Buerk, buerk@ithaca.edu

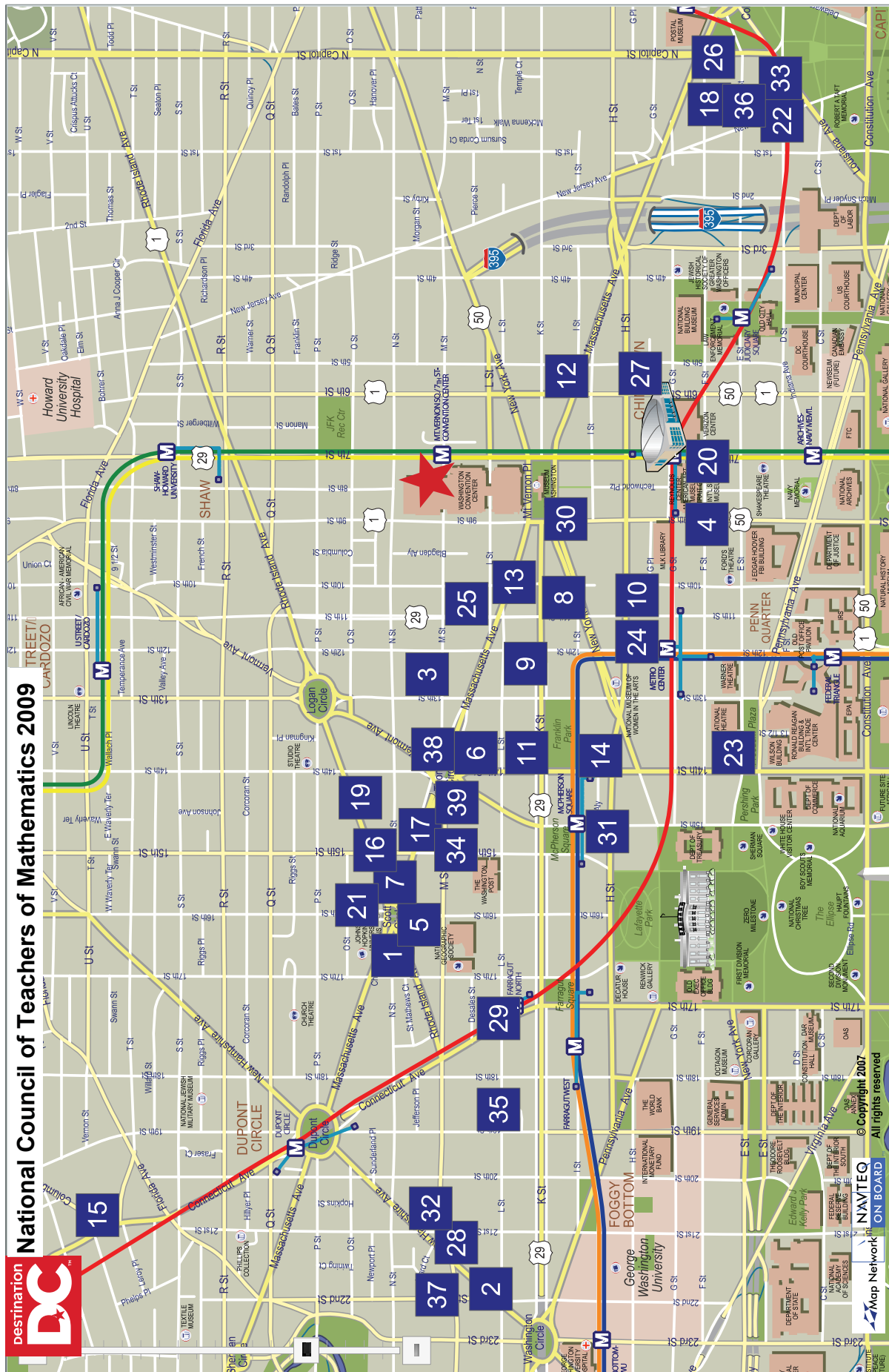


Washington, D.C. Hotels

	Hotel	Single (1 person/1 bed)	Double (2 persons/1 bed)	Triple (3 persons/2 beds)	Quad (4 persons/2 beds)
1	Beacon Hotel and Corporate Quarters, 1615 Rhode Island Avenue, NW	\$269	\$269	\$289	\$309
2	Best Western Georgetown Hotel & Suites, 1121 New Hampshire Avenue, NW	\$259	\$259	\$259	\$259
3	Comfort Inn Convention Center - Downtown DC, 1201 13th Street, NW	\$169	\$169	\$179	\$189
4	Courtyard by Marriott – Convention Center, 900 F Street, NW	\$243	\$243	\$253	\$263
5	Courtyard by Marriott - Embassy Row, 1600 Rhode Island Avenue, NW	\$249	\$249	\$279	\$279
6	Donovan House, 1155 14th Street, NW	\$259	\$259	NA	NA
7	Doubletree Hotel Washington, D.C., 1515 Rhode Island Avenue, NW (Jr. Suites)	\$228 \$278	\$228 \$278	\$258 \$308	\$288 \$338
8	Embassy Suites Washington, D.C. Convention Center, 900 10th Street, NW	\$259	\$259	\$279	\$299
9	Four Points Downtown by Sheraton, 1201 K Street, NW	\$230	\$230	\$260	\$280
10	Grand Hyatt Washington*, 1000 H Street, NW	\$258	\$283	\$308	\$333
11	Hamilton Crowne Plaza, 1001 14th Street, NW	\$256	\$256	\$276	\$296
12	Hampton Inn DC Convention Center, 901 6th Street, NW	\$207	\$207	\$218	\$229
13	Henley Park Hotel, 926 Massachusetts Avenue, NW	\$245	\$267	NA	NA
14	Hilton Garden Inn Washington, D.C. - Downtown, 815 14th Street, NW	\$289	\$299	\$309	\$319
15	Hilton Washington, 1919 Connecticut Avenue, NW	\$259	\$279	\$304	\$329
16	Holiday Inn Central Washington, D.C., 1501 Rhode Island Avenue, NW	\$191	\$191	\$201	\$211
17	Homewood Suites by Hilton, 1475 Massachusetts Avenue, NW	\$259	\$259	\$279	\$279
18	Hotel George, 15 E Street, NW	\$279	\$304	NA	NA
19	Hotel Helix, a Kimpton Hotel, 1430 Rhode Island Avenue, NW	\$255	\$255	\$275	\$295
20	Hotel Monaco, 700 F Street, NW	\$272	\$272	NA	NA
21	Hotel Rouge, a Kimpton Hotel, 1315 16th Street, NW	\$265	\$265	\$285	\$305
22	Hyatt Regency Washington on Capitol Hill, 400 New Jersey Avenue, NW	\$245	\$245	\$270	\$295
23	JW Marriott, 1331 Pennsylvania Avenue	\$256	\$256	\$276	\$296
24	Marriott at Metro Center, 775 12th Street, NW	\$248	\$248	\$268	\$288
25	Morrison-Clark Inn, 1015 L Street, NW	\$245	\$267	NA	NA
26	Phoenix Park Hotel, 520 North Capitol Street, NW	\$269	\$269	\$299	\$339
27	Red Roof Inn Downtown, DC 500 H Street, NW	\$179	\$179	\$179	\$179
28	Renaissance M Street Hotel, 1143 New Hampshire Avenue, NW	\$235	\$255	\$275	\$295
29	Renaissance Mayflower Hotel, 1127 Connecticut Avenue, NW	\$294	\$294	\$324	\$324
30	Renaissance Washington, D.C. Hotel*, 999 9th Street, NW	\$259	\$259	\$279	\$279
31	Sofitel Lafayette Square, 806 15th Street, NW	\$285	\$285	NA	NA
32	St. Gregory Luxury Hotel & Suites, 2033 M Street, NW (Jr. Suites)	\$269 \$289	\$269 \$289	NA \$319	NA NA
33	The Liaison Capitol Hill, An Affinia Hotel, 415 New Jersey Avenue, NW	\$230	\$250	\$270	\$290
34	The Madison, A Loews Hotel, 1177 15th Street, NW	\$285	\$285	\$315	\$345
35	The Quincy, 1823 L Street, NW	\$259	\$279	\$299	\$319
36	Washington Court Hotel on Capitol Hill, 525 New Jersey Avenue, NW	\$240	\$265	\$290	\$315
37	Washington Marriott, 1221 22nd Street, NW	\$249	\$249	\$269	\$289
38	Washington Plaza Hotel, 10 Thomas Circle, NW	\$249	\$249	\$269	\$289
39	Westin Washington, D.C. City Center, 1400 M Street, NW	\$196	\$221	\$246	\$271

*Headquarters Hotel

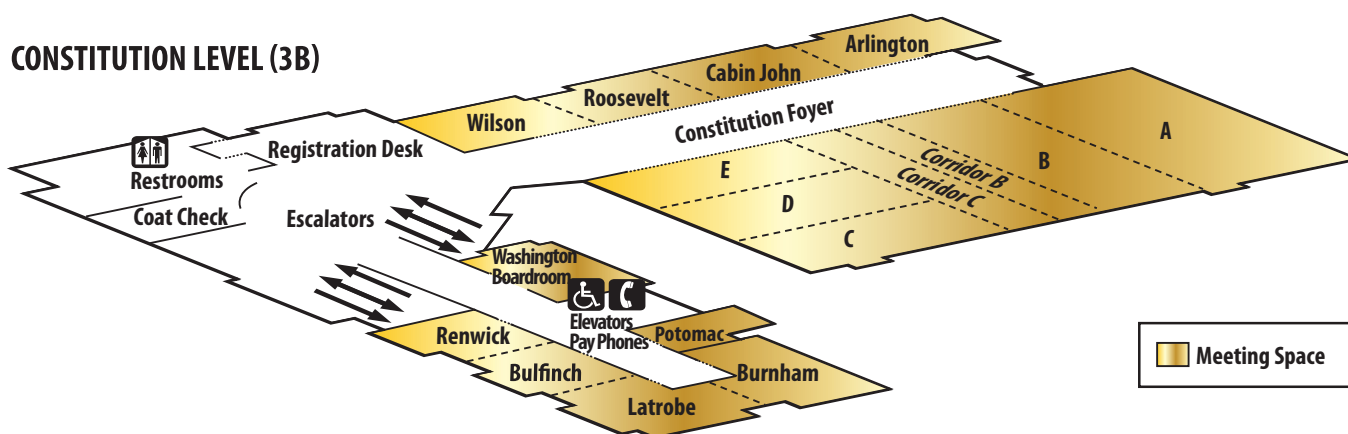
All prices quoted are exclusive of all taxes. The current hotel room tax in Washington, D.C. is 14.50%



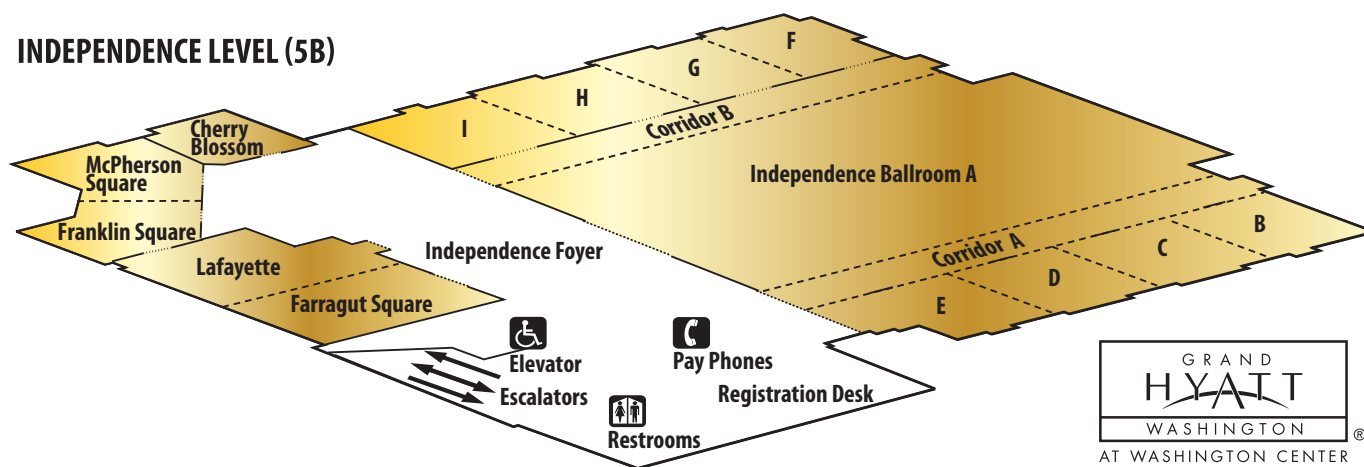
Floor Plans

Grand Hyatt Washington

CONSTITUTION LEVEL (3B)

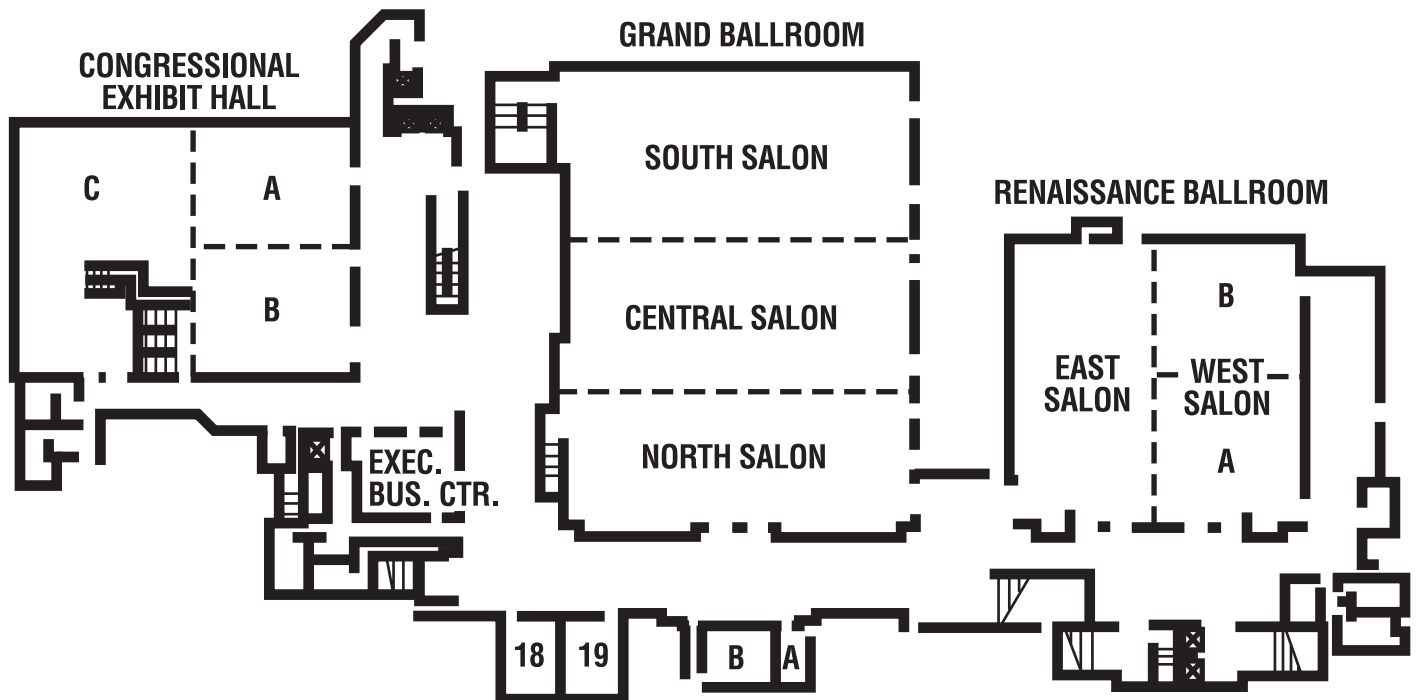


INDEPENDENCE LEVEL (5B)

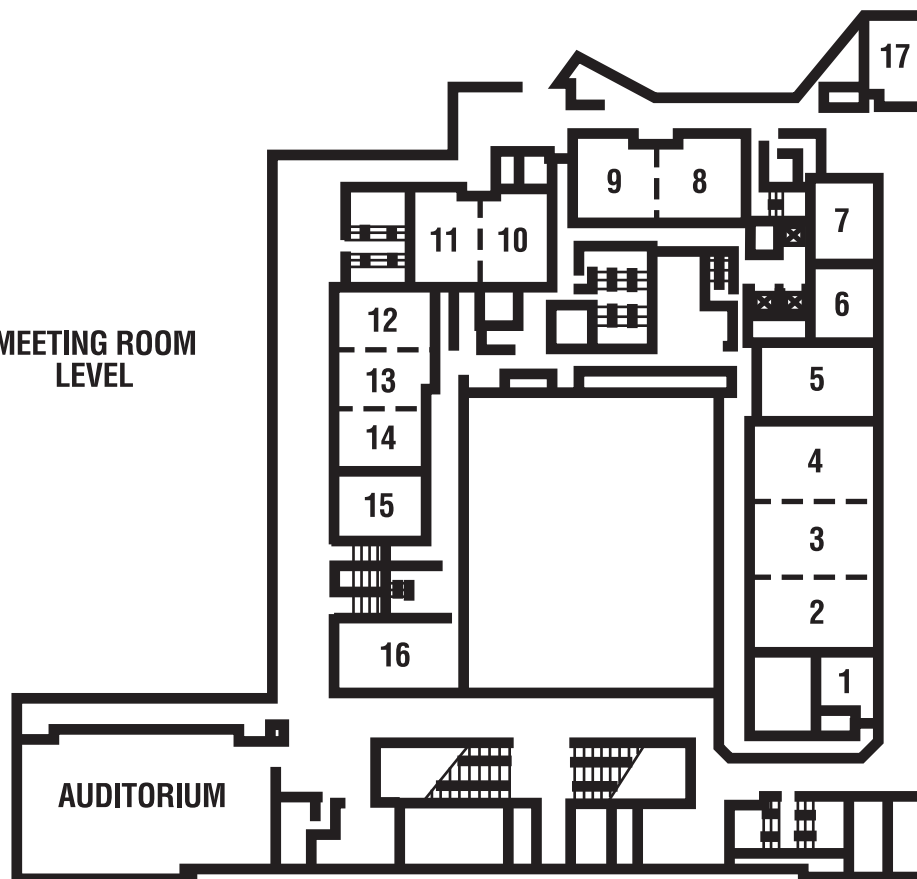


Renaissance Washington, D.C. Hotel

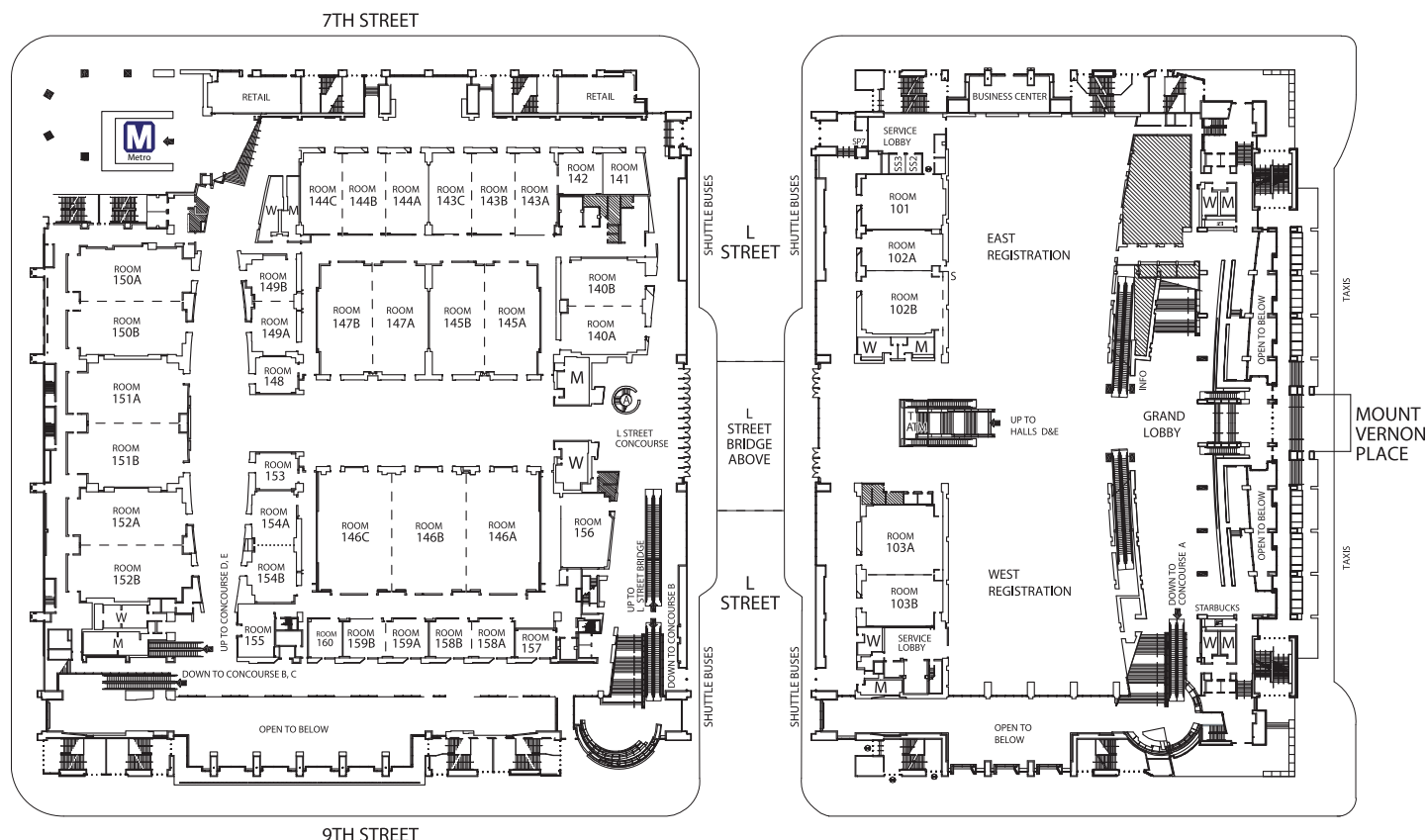
BALLROOM LEVEL



MEETING ROOM LEVEL



Walter E. Washington Convention Center — Street Level



Directory and Special Locations

(All located at the Walter E. Washington Convention Center)

Bag and Coat Check	West Registration
Bookstore	West Registration
Business Center	Level 1
Cyber Café	Exhibit Hall D & E
Exhibits	Exhibit Hall D & E
First Aid Room	Exhibit Hall D
Housing Desk	East Registration
Information Booth	East Registration
Lost-and-Found	Information Booth
Mathematics Education Trust	Member Showcase
Member Showcase	L Street Bridge
Press Room	Room 301
Registration	East Registration
Restaurant Reservations	Grand Lobby
Shuttle Desk	L Street Shuttle Area
Speaker and Exhibitor Check-In	East Registration
Sponsorship Items Distribution	East Registration
Tours	L Street South Lobby
Volunteer Check-In	East Registration



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The National Council of Teachers of Mathematics is a public voice of mathematics education, providing vision, leadership, and professional development to support teachers in ensuring equitable mathematics learning of the highest quality for all students. With nearly 90,000 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.



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NCTM 2009 Annual Meeting and Exposition*

Washington, D.C. • April 22–25, 2009

Henry S. Kepner, Jr.
President, NCTM



Name of Provider: National Council of Teachers of Mathematics

Educator's Name: _____

Professional Development Activity: NCTM Annual Meeting and Exposition
April 22–25, 2009
Washington, D.C.

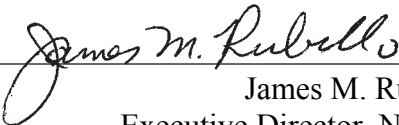
Description of Professional Development Activity: This is a 3-day annual conference sponsored by The National Council of Teachers of Mathematics. Hundreds of sessions are offered for teachers of kindergarten through college. Topics range from administration to geometry, and from precalculus to statistics.

*** Attention Educator: Attach individual session descriptions to this form when submitting.*

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.


James M. Rubillo
Executive Director, NCTM

NCTM Individual Membership Application

DC09P

VISIT www.nctm.org/membership FOR DETAILS ON MEMBERSHIP FEATURES

CONTACT INFORMATION (PLEASE PRINT) All fields marked with an * are required for processing

First Name* _____ Last Name* _____

Please check **ONE** box for preferred mailing address, but please complete both columns for our records:

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State/Prov* _____ ZIP/PC* _____

Country* _____

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

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

OPTION 1

Full Individual Membership

Includes a print subscription to the *NCTM News Bulletin* and one NCTM journal. Select **ONE** journal below:

- \$78** ☐ **Teaching Children Mathematics** (Pre-K-6)
☐ **Mathematics Teaching in the Middle School** (5-9)
☐ **Mathematics Teacher** (8-14)

\$105 ☐ **Journal for Research in Mathematics Education**

Add Print Journals

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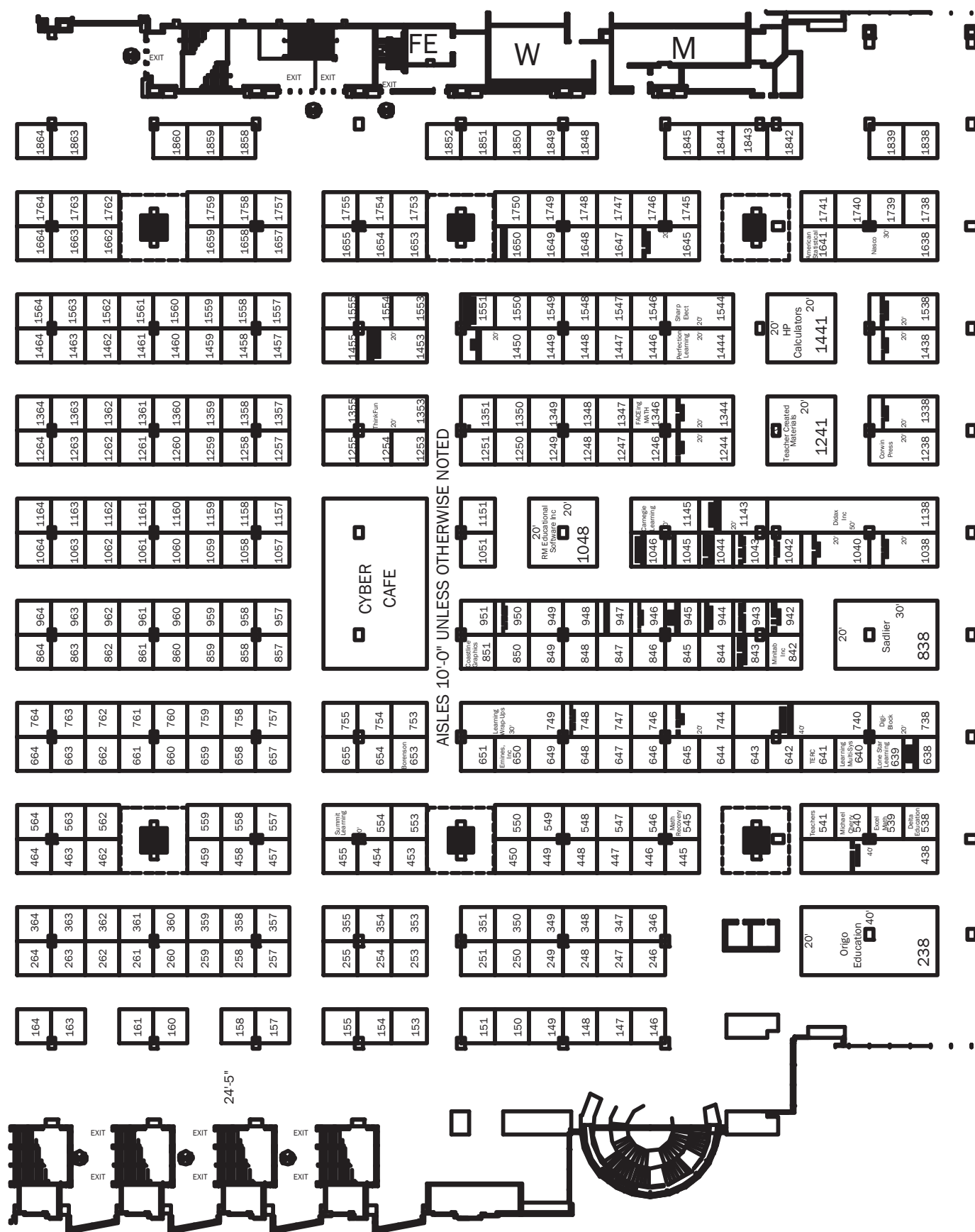
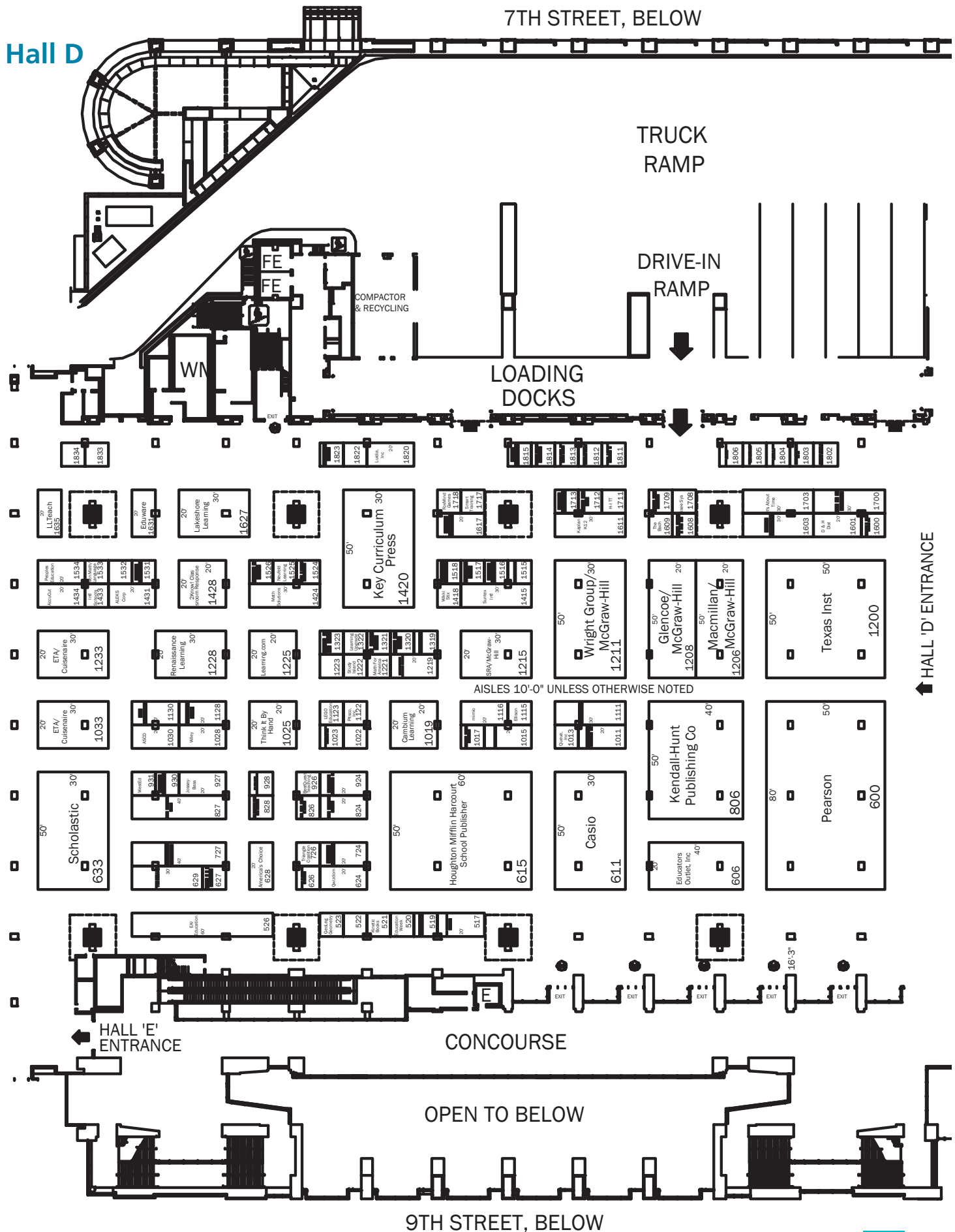


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Algebra - Algebraic Thinking, Patterns, Functions

Assessment - High-Stakes Testing, Instructional Strategies, Classroom and Large-Scale Assessment, Formal and Informal Questioning, Policy Decisions, and Program Evaluation

Calculus & Discrete Mathematics - Calculus, Precalculus, Discrete Mathematics, Symbolic Logic, Sets or Set Theory, and Graph Theory

Communication, Connections, & Representation - Communication, Connections, History, Literature, Mathematics Applications, Integrated Mathematics, and Modeling

Data Analysis & Probability - Data Analysis, Probability

Equity & Diversity Issues (Focus of the Year) - Equity, Diversity, Alternative Schools, Funding, Multilingual, Special Needs, Gifted, Community Relations, State and Federal Legislation, Outreach and Advocacy, and Accountability

Geometry & Measurement - Geometry, Measurement, Trigonometry, Patterns, and Functions

Hot Topic - Mathematics Education Contributing to Economic Competitiveness

Number & Operations - Number, Number Sense, Operations, Computation, Estimation, Decimals, and Fractions

Problem Solving, Reasoning, & Proof - Problem Solving, Reasoning and Proof, and Critical Thinking

Professional Development - Certification, International Perspectives, Analysis of Student's Work, Coaching, Alternative Certification, and Instructional Strategies

Research - Connecting Research and Practice, Classroom Research by Teachers, Research Insights

Technology - Using Calculators and Computers as Tools

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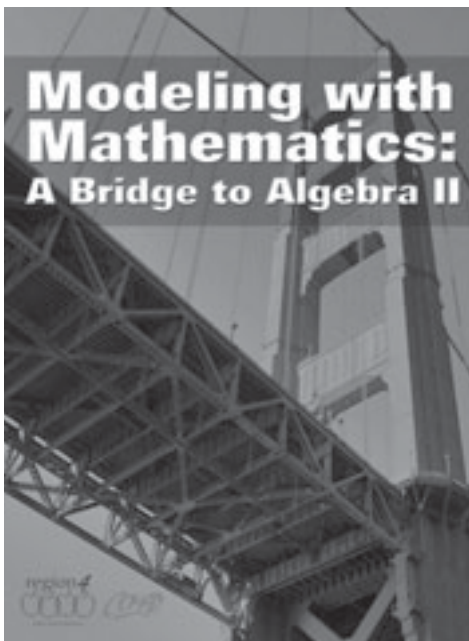
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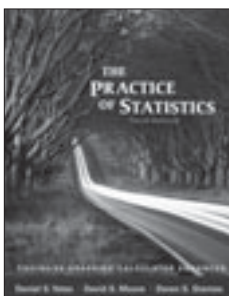
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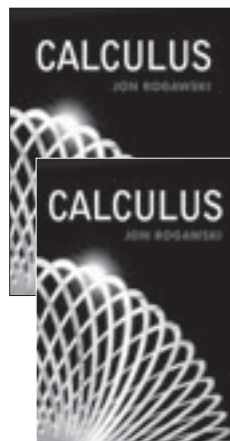
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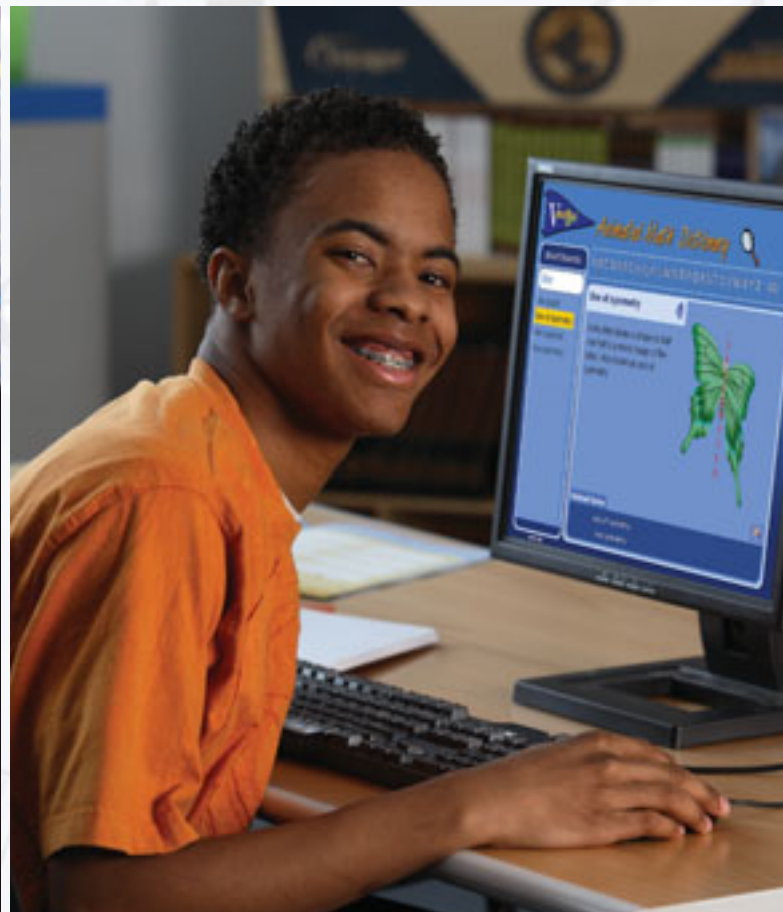


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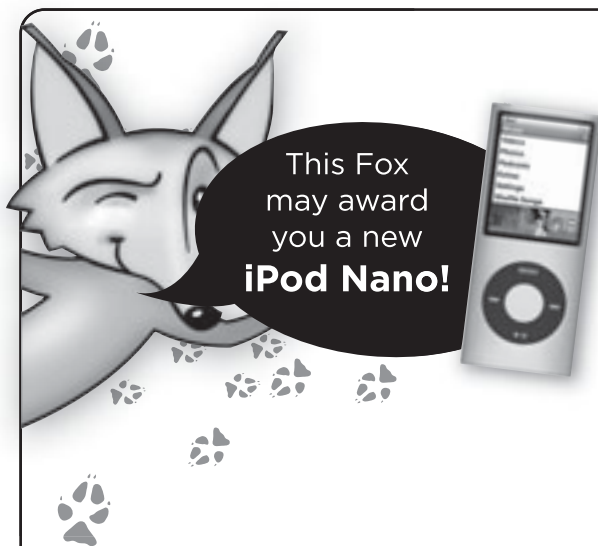
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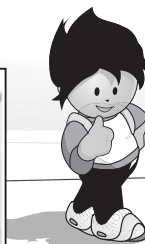
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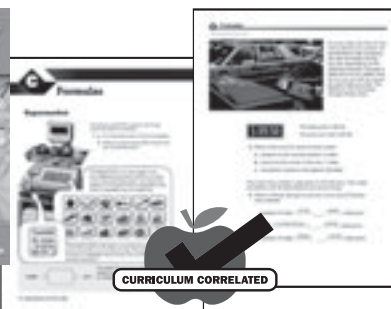
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