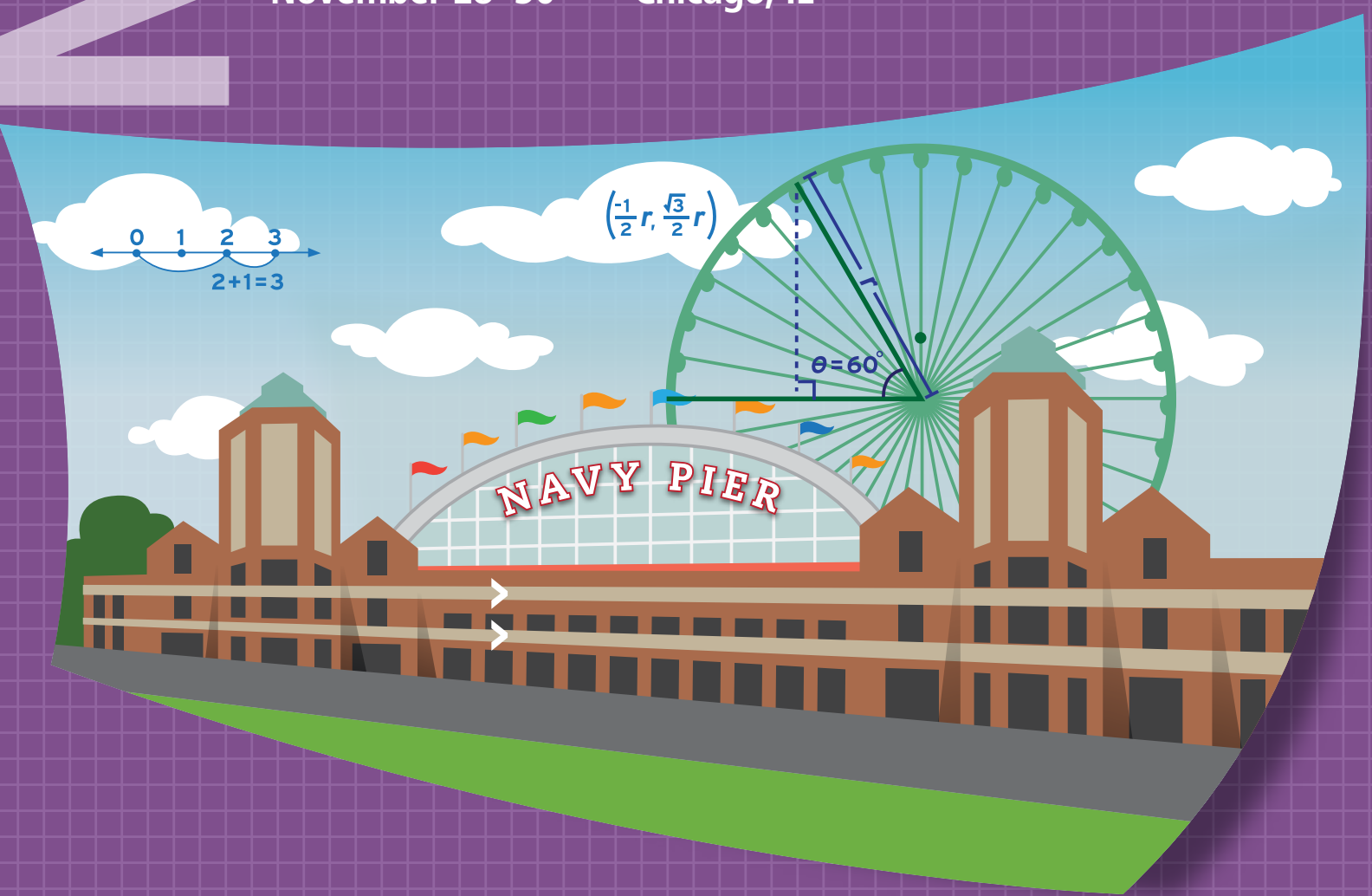


NCTM

2012 REGIONAL CONFERENCE & EXPOSITION

November 28–30 ■ Chicago, IL

See Valuable
COUPONS
beginning
page 73



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

PROGRAM BOOK

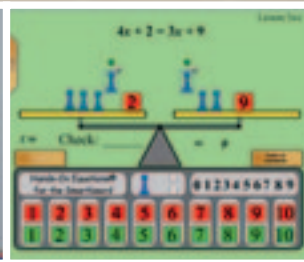
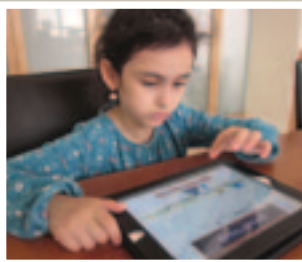
HANDS-ON EQUATIONS[®]

Making Algebra Child's Play[®]

(for grades 3 - 9)

**Free App
for the iPad
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**Visit our
Booth #626 to
see a demo and
to enter a raffle to
win a class set of
Hands-On
Equations!**



Attend our sessions on Thursday and Friday from 10:00 a.m. to 11:00 a.m. in the Water Tower room. Since 1990, more than 50,000 teachers of grades 3 - 9 have attended the Making Algebra Child's Play workshop to learn how to demystify the teaching of algebra.

**Contact us at 800-993-6284 to bring this training to your district!
Borenson and Associates, Inc. - www.borenson.com**

NCTM 2012 Regional Conference & Exposition

November 28–30
Chicago, Illinois

HOST

Illinois Council of Teachers of Mathematics

MEETING FACILITY

All Regional Conference presentations will be held at the Hyatt Regency Chicago. See pages 61–63 for floor plans.

REGISTRATION

Wednesday	5:00 p.m.	–	8:00 p.m.
Thursday	7:00 a.m.	–	3:00 p.m.
Friday	7:00 a.m.	–	3:00 p.m.

EXHIBITS

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

BOOKSTORE AND MEMBER SHOWCASE

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



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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

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Welcome to the Windy City!



Chicago skyline and Navy Pier. © Choose Chicago

We're glad you could join us for NCTM's 2012 Regional Conference and Exposition. We encourage you to take advantage of the variety of sessions and hands-on gallery workshops that the conference offers. Don't forget to take time to explore the Exhibit Hall and check out some of the latest teaching products and technology. We hope that you walk away with a wealth of information and answers to your biggest challenges.

While you're here for the conference, remember to explore all the great things Chicago has to offer. Take a stroll down Michigan Avenue, enjoy the holiday decorations on State Street, explore the unique neighborhoods, and be sure to enjoy the food!



Rick Anderson
*Program Committee Chair
Eastern Illinois University
Charleston, Illinois*



Gwen Zimmermann
*Volunteer Committee Chair
Adlai E. Stevenson High School
Lincolnshire, Illinois*



International Exchanges and Research Opportunities for U.S. Classroom Teachers

The **Fulbright Classroom Teacher Exchange Program** and **Distinguished Fulbright Awards in Teaching Program** provide U.S. primary and secondary teachers with opportunities to exchange teaching positions with an international teacher or participate in an independent study abroad. U.S. teachers may apply for programs during the 2013-2014 school year in **Argentina, the Czech Republic, Finland, France, Hungary, India, Mexico, Morocco, Singapore, South Africa** and the **United Kingdom**.

FULBRIGHT CLASSROOM TEACHER EXCHANGE PROGRAM
Application Deadline | October 15, 2012

DISTINGUISHED FULBRIGHT AWARDS IN TEACHING PROGRAM
Application Deadline | December 15, 2012

www.fulbrightteacherexchange.org



Program Information

The NCTM 2012 Regional Conference and Exposition officially begins with the Opening Session featuring Sarah Greenwald, starting at 5:30 p.m. on Wednesday. All other presentation days begin at 8:00 a.m. and are scheduled concurrently throughout the day on Thursday and Friday.

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

Please remember:

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

New and Preservice Teachers Workshop

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

Thursday

10:30 a.m.—Noon

Grand Ballroom B (East Tower, Gold Level)

Friday

10:30 a.m.—Noon

Crystal Ballroom C (West Tower, Green Level)

New Member and First Timers' Orientation

New to NCTM or a first-time attendee at a regional conference? Join us to learn how to maximize your membership experience! From journals, online lessons, tools, and activities to networking and career-advancement opportunities, you'll discover all that NCTM has to offer you. Also, first-time attendees will learn how to make the most of their time at the conference.

Thursday and Friday

7:15 a.m.—7:45 p.m.

Grand Ballroom F (East Tower, Gold Level)

Professional Development Focus of the Year 2012–2013

This year's Focus of the Year is ***Reasoning and Proof: Is It True? Convince Me!*** The conference will highlight this theme as the topic of Thursday's Learn↔Reflect strand, as well as in many other NCTM activities throughout the year. For more information, visit www.nctm.org/focus.

Learn↔Reflect Strand

REASONING AND PROOF: IS IT TRUE? CONVINCE ME!
THURSDAY, NOVEMBER 29

Plan one full day for the Focus of the Year topic, ***Reasoning and Proof: Is It True? Convince Me!*** The strand begins with a morning Kickoff session and concludes with an end-of-the-day Reflection session. In between, you choose from among a number of sessions exploring the topic, all marked with the symbol **L↔R**. Immerse yourself in the topic, and collaborate with leaders and colleagues. We ask participants to reflect on the following questions throughout the Learn↔Reflect strand and then discuss them at the end of the strand, during the Reflection session.

1. What role does reasoning and proof play in increasing the opportunities for communication to help students develop mathematical understanding?
2. How does stressing reasoning and proof influence your instructional decisions? In addition, how do your instructional decisions influence how reasoning and proof should be stressed?
3. How does reasoning and proof drive the lifelong learning of significant mathematics to all students? How is equity and diversity also promoted by stressing reasoning and proof?
4. How are you thinking differently about your use of reasoning and proof because of participating in the Learn↔Reflect strand? What are some of the steps you plan to take to promote reasoning and proof in your classroom/school?

Learn↔Reflect sessions are open for anyone to attend throughout the day. Participants who attend the Kickoff session, at least one Learn↔Reflect session during the day, and the final Reflection session will receive personalized certificates by mail.

Learn↔Reflect Kickoff Session

9:30 a.m.

Grand Ballroom F (East Tower, Gold Level)

Learn↔Reflect Reflection Session

3:30 p.m.

Grand Ballroom F (East Tower, Gold Level)

Program Information

Illinois Council of Teachers of Mathematics (ICTM) Annual Awards Ceremony

ICTM will honor Illinois Educators who have made outstanding contributions to the field. A short video highlighting each person's contributions will be shown. Scholarships will also be presented to college students who are majoring in math education.

Friday, November 30
5:30 p.m.
Truffles (West Tower, Blue Level)

Types of Presentations

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

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

Gallery Workshops (90 minutes) have rooms set with round tables for hands-on work and additional gallery seating around the perimeter of the room. The gallery participants will receive the print materials and observe the workshop in a fashion similar to that of a classroom observer.

Exhibitor Workshops (60 minutes) are set theatre style for at least 70 people. Exhibitors showcase their products and services away from the Exhibit Hall. Look for the symbol **EW** indicating exhibitor workshops in the program book.

Grade Bands

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

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

Program Updates

Don't forget to pick up your copy of the *Program Updates*, which includes speaker and program updates, a complete exhibitor directory, and exhibitor workshop information. *Program Updates* are available in the Registration Area.

Tips for a Rewarding Regional Conference and Exposition

- Access the Conference App for conference alerts and up to the minute information. Visit www.nctm.org/confapp.
- Access available speaker handouts at www.nctm.org/plan.
- Become familiar with the layout of the Hyatt Regency Chicago by reviewing the floor plans on pages 61–63.
- Visit the **NCTM Bookstore** for the latest NCTM educational resources, and the **Member Showcase**, where you can learn more about how NCTM can help you professionally and pick up free resources. Save 25 percent off all list price items.
- Stop by the Information Booth for information on the local area.
- If attending the conference with colleagues, attend different presentations and share your learned knowledge after the conference.
- Wear comfortable shoes and clothes, and dress in layers.
- Turn off cell phones during presentations.
- Visit the Exhibit Hall, where 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 online survey.
- Be safe! Remove your name badge when you leave the conference facilities at the end of the day.

Registration and Access to Presentations

You must wear your badge to enter all presentations and the NCTM Exhibit Hall. Please be aware that the fee for a replacement badge is **\$5**.

By registering for the NCTM 2012 Regional Conference 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.

Recycling

Help NCTM Recycle—Finished with your Program Book, plastic name badge holders, or Program Updates? Place them in the specially marked containers for recycling, in the registration area.

General Information

For Your Child's Safety

Due to the size and nature of the NCTM 2012 Regional Conference and Exposition, this event is not an appropriate setting for children under 16 years of age. Children under age 16 will not be permitted in the Exhibit Hall. We appreciate your understanding and cooperation. Children 16 years and over will need to register as nonteaching guests. To register a nonteaching guest, please visit the Registration Area.

Member Showcase

Make sure to stop by the **NCTM Member Showcase** located in the Hyatt Regency Chicago's Riverside Center and let us help you learn more about how your NCTM membership provides you access to lessons, teaching tips and strategies, research findings, and more. You can take away classroom-ready activities, sample journals, and other materials that you can use immediately in the classroom.

Whether you are a new member, a current member, or thinking of joining, the NCTM Member Showcase is here to help make your job easier!

Renew your membership or join NCTM for the first time onsite and you will receive a **free** NCTM 2013 Annual Meeting t-shirt! Supplies are limited.

Bookstore

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

Save 25 percent off the list price on all purchases made at the NCTM Bookstore in the Riverside Center Exhibit Hall. Check out NCTM's newest titles and bestsellers and find NCTM gear for yourself and friends and family at home. Spreading the word about the importance of math has never been easier. Start your wish list today by previewing NCTM's wealth of resources at www.nctm.org/catalog.

Note on Sales Tax Exemptions: To be considered exempt from sales tax in the NCTM Bookstore, you must provide a copy of an **Illinois tax exemption certificate** at the time of purchase. NCTM is required by law to keep a copy of the certificate, so we cannot return it to you. To qualify, you must make payment with a purchase order, check, or credit card from the school to which the Illinois Exemption Certificate is issued. We cannot accept personal checks, personal credit card from the school to which the Illinois Exemption Certificate is issued. We cannot accept personal checks, personal credit cards, or cash in conjunction with tax exemption certificates. Tax exemption certificates for states other than Illinois are not valid for this regional conference.

The NCTM Bookstore is not equipped to handle shipping from the meeting site. The Hyatt Regency Chicago Business Center can assist you with your shipping needs.

Information Booth

The NCTM Information Booth will be in the Crystal Ballroom Foyer. Personnel from the area will staff the booth and can answer your questions about Chicago. They will also assist you with directions and local information, from transportation and historical sites to shopping and entertainment.

Lost-and-Found

You may retrieve or turn in lost-and-found items at the NCTM Information Booth in the Crystal Ballroom Foyer. Unclaimed items will be turned over to the Hyatt Regency Chicago Hotel Security.

First Aid Station

There will be a first-aid station at the Hyatt during the NCTM conference. If you need medical services while in Chicago please check with the hotel concierge for the closest medical facilities.

Your Opinion Counts!

Thank you for attending the NCTM 2012 Regional Conference and Exposition. In the days following the Regional Conference, you will receive an e-mail asking for an evaluation of your meeting experience. Please take a moment to complete the survey. Your feedback is important to us and will be instrumental in the future Regional Conference and Exposition planning process.

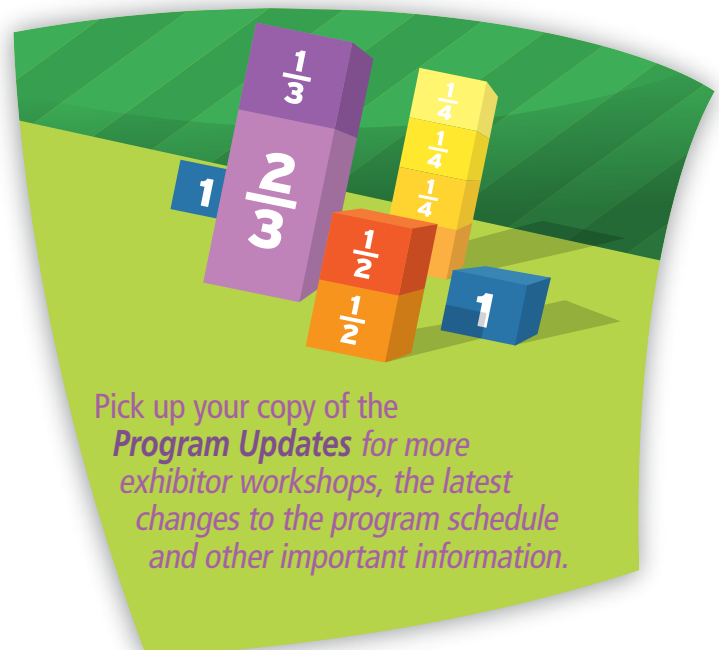


Exhibit Hall Information

Exhibits

Be sure to make time in your schedule to visit the NCTM Exhibit Hall. The hours allow ample opportunity to explore, try out, and purchase products and services for use in your classroom or to help you meet your career goals. You'll also be able 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 65–68. Please note: Children under age 16 will not be permitted in the Exhibit Hall.

Exhibitor Workshops

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

Internet Station

Need to check e-mail or want to surf the Web? Stop by the NCTM Internet Station located in the registration area.

Conference Sponsors

A special thank you goes to our sponsor, Texas Instruments, for providing our volunteer t-shirts. Please stop by their booth when you are in the Exhibit Hall.



Technology at your Fingertips!

Conference App

The NCTM conference app keeps you connected with the Regional Conference's every aspect. The free app allows you to search sessions, speakers, and exhibits; view the Exhibit Hall floor plan; highlight your favorite presentations; get a Twitter feed update (official Twitter hashtag #nctm12); and rate presentations. Stay up-to-date with the latest program changes. Visit www.nctm.org/confapp for more information.

NEW! Presentation Handouts

This year, attendees can access available electronic presentation handouts through the conference app and online planner.

Online Planner

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

All Year Long

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



Wednesday Planner

WEDNESDAY

5:00

5:30

6:00

6:30

7:00

HIGHLIGHTS

Opening Session (Presentation 1):

Mathematical Reasoning & Proof with The Simpsons and Futurama



Inside look at the Field Museum. View of Sue, the largest complete T. rex ever discovered. © Choose Chicago

REGISTRATION HOURS

5:00 p.m.–8:00 p.m.

FIRE CODES

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

BOOKSTORE AND MEMBER SHOWCASE HOURS

5:00 p.m.–7:00 p.m.

5:30 P.M.–7:00 P.M.

WEDNESDAY



1 Mathematical Reasoning and Proof with The Simpsons and Futurama

(General Interest) Session

Did you know that The Simpsons and Futurama contain hundreds of humorous mathematical and scientific references? Because "Reasoning and Proof" is the NCTM Focus of the Year, we'll explore the mathematical content and educational value of some favorite moments related to the theme, along with the motivations and backgrounds of the writers.

Sarah J. Greenwald
Appalachian State University, Boone, North Carolina

GRAND BALLROOM CDEF (EAST TOWER, GOLD LEVEL)

What's the Big Idea?

Introducing Three New Titles in the Landmark *Essential Understanding Series*

Rose Mary Zbiek, Series Editor

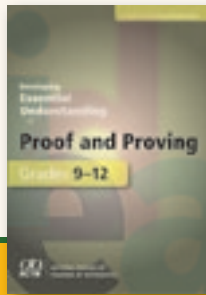
SAVE 25% Off the List Price of These and All Books in the Conference Bookstore!*

NEW

Developing Essential Understanding of Proof and Proving in Grades 9–12

By Amy B. Ellis, Kristen Bieda, and Eric Knuth

Stock # 13803

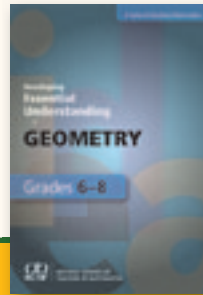


NEW

Developing Essential Understanding of Geometry for Teaching Mathematics in Grades 6–8

By Nathalie Sinclair, David Pimm, and Melanie Skelin

Stock # 14122

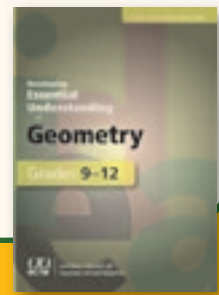


NEW

Developing Essential Understanding of Geometry for Teaching Mathematics in Grades 9–12

By Nathalie Sinclair, David Pimm, and Melanie Skelin

Stock # 14123



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(800) 235-7566 | WWW.NCTM.ORG

Visit the NCTM Bookstore in the Exhibit Hall to see these and other titles on display.

* Conference discount not valid on sale items.

Thursday Planner

8:00	
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
Noon	
12:30	
1:00	
1:30	
2:00	
2:30	
3:00	
3:30	
4:00	
4:30	
5:00	

THURSDAY

LOR Learn↔Reflect Strand

ew Exhibitor Workshop

HIGHLIGHTS

- New Members and First Timers' Orientation (Presentation 2)
- Learn↔Reflect Kickoff Session (Presentation 25)
- New and Preservice Teachers Workshop (Presentation 46)
- Learn↔Reflect Reflection Session (Presentation 102)

REGISTRATION HOURS

7:00 a.m.–3:00 p.m.

EXHIBIT HOURS

8:00 a.m.–5:00 p.m.

BOOKSTORE AND MEMBER SHOWCASE HOURS

7:00 a.m.–5:00 p.m.

FIRE CODES

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

7:15 A.M.–7:45 A.M.

2 New Members and First Timers' Orientation

(General Interest) Session

New to NCTM? Join us to learn how to maximize your membership experience. From journals and online lessons, tools, and activities, to networking and career-advancement opportunities, you'll discover all that NCTM has to offer you. Also, learn how to make the most of your time at the conference.

Mike Lutz
California State University, Bakersfield

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

8:00 A.M.–9:00 A.M.

3 "When Am I Ever Gonna Use This in Real Life?"

(General Interest) Session

Sound familiar? If you are a math teacher, then you have no doubt heard this question countless times throughout your career. Why should your students learn math? Looking for some new, fresh responses? Join us for some reflection and laughter as we role-play a slew of serious and humorous responses to this million-dollar question.

Adam Poetzel
University of Illinois, Champaign

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

4 My Cardinality

(Pre-K–2) Session

This session introduces the concept of cardinality to young children by exploring a variety of hands-on activities to be used in the mathematics classroom. Activities are designed to foster concept development by making connections to real-life situations.

Maria Jose Campitelli
Miami Dade County Public School System, Florida

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

5 Engaging Students with Effective Problem-Solving Strategies: Reading, Discussing, and Solving

(Pre-K–5) Session

We will discuss the importance of using real-life problems and developing effective questioning strategies as essential elements in developing problem-solving and reasoning skills. I will demonstrate effective use of technology tools to amplify student learning and will engage attendees in problem solving. Handouts included.

Donna L. Knoell
Consultant, Shawnee Mission, Kansas

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

6 Great Math Lessons Based on Great Children's Literature

(Pre-K–5) Session

As educators increasingly value interdisciplinary lessons, publishers rush to produce stories based on math concepts. Teachers must ask: "Is the math lesson accurate?" and "Is the book worthy of class time?" Explore great literature used to create relevant lessons based on NCTM Standards with a mathematician, award-winning author, and poet.

MW Penn
Author, Hamden, Connecticut

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

7 Differentiate in the Math Classroom and Have Students Think Deeply

(3–8) Session

Come see some ways to differentiate in the math classroom to move students to a higher level of thinking and understanding. Discover some quick and effective vocabulary strategies to help your students learn the language of math. See how you can use extension menus and learner agreements to help students develop deeper understandings.

Pamela B. Gruzynski
Bloomingdale District 13, Illinois

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

8:00 A.M.—9:00 A.M.

8 Teaching Number Sense to the iGeneration

(6–8) Session

Examine how to engage, motivate, and teach the iGeneration (the Internet generation). Participants will have access to videos, websites, virtual worlds, and motivational strategies for students in grades 3–8 that can lead to building better number sense and facility with rational numbers.

Eric Milou

Rowan University, Glassboro, New Jersey

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

9 Tinkering with Data: Using TinkerPlots to Engage in Data Exploration

(6–8) Session

This hands-on workshop lets you tinker with real-world data. Use TinkerPlots to explore data, generate your own questions, make conjectures, and carry out investigations.

Karen M. Greenhaus

Key Curriculum Press, Emeryville, California

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

10 Conceptualizing Procedural Problems in Mathematics

(6–12, Research) Session

In today's world, students are required not only to memorize but also to understand conceptually procedural problems given. In sharing this study on how sixteen at-risk secondary students' depth of procedural knowledge increased through the use of metacognitive technology, we hope to help teachers enhance their own students' mastery of procedural problems.

Vicki-Lynn Holmes

Hope College, Holland, Michigan

Emily Rowland

Hope College, Holland, Michigan

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

11

Applying the Common Core State Standards

(9–12) Session

Take part in engaging activities that not only highlight different content areas of the Common Core State Standards for Mathematics but also focus on the Mathematical Practices. Activities will include functions, geometry, data analysis, and probability and will focus on modeling, reasoning, and sense making. We will also use ideas about formative assessment.

Fred Dillon

Strongsville High School, Ohio

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

13

Providing Productive Feedback for Students' Proofs

(Higher Education) Session

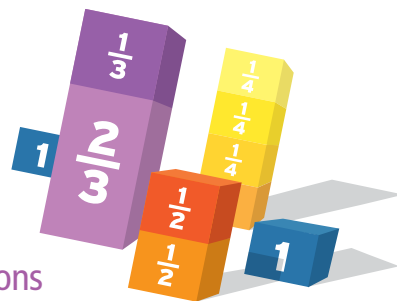
In this session, we offer examples of students' paragraph proofs and the feedback given by instructors. We comment on feedback techniques that helped students become better at writing proofs, as well as techniques that were not as productive. We discuss thinking of proof writing through a lens of communication akin to essay writing.

Sharon Strickland

Texas State University, San Marcos

GOLD COAST (EAST TOWER, BRONZE LEVEL)

THURSDAY



Participate in today's **Learn↔Reflect** strand. Look for sessions marked with the **LORE** icon.

8:30 A.M.–9:30 A.M.

ew 13.1 Reaching the Depth Required in the CCSS with an Integrated Approach to Learning

(K–5) Exhibitor Workshop

Pearson Forward, a fully digital K–5 instructional system, fosters math achievement starting in kindergarten by providing teachers with the tools to nurture thinking and academic success. Learn how Forward, which was funded through a federal i3 grant and written for the CCSS, helps students reach a deeper understanding in math through integration of key subject areas and skills.

Pearson

Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

8:30 A.M.–10:00 A.M.

14 Why Subitize and Use Number Lines in the Early Years?

(Pre-K–2) Gallery Workshop

Subitizing enhances young children's ability to think and reason mathematically. Subitizing is crucial in learning a large part of the primary school curriculum and affects the later elementary school years. Having a collection of rich subitizing activities would benefit students' learning. Linear and open number lines also enhance students' number sense.

Darlene D. Kusick

Chinooks Edge School Division # 73, Innisfail, Canada

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

15 Building Your Students' Number Sense

(Pre-K–5) Gallery Workshop

Do you still have students counting on their fingers to add and subtract? What those students lack is number sense. Number sense can't be taught; it has to be experienced. So come experience lessons, using a rekenrek, that will help you develop your students' number sense and, thus, their ability to add and subtract flexibly and fluently.

Christina D. Tondevoid

Mathematically Minded, Orofino, Idaho

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

16

I'm a Math Specialist; Who Said I Was a Leader?

(Pre-K–5) Gallery Workshop

Math specialists are building or district leaders and regularly confront issues related to leadership. These issues include challenges in working with adult learners, mentoring their colleagues, and establishing professional learning communities—all while navigating the relationships that affect their work. Come help us figure this out.

Francis (Skip) Fennell

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

Beth Kobett

Stevenson University, Baltimore, Maryland

Jon Wray

Howard County Public Schools, Ellicott City, Maryland

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

17

Exploring Fractions in the Common Core through Cognitively Demanding Tasks

(3–5) Gallery Workshop

Come and explore how cognitively demanding tasks and various manipulatives support students' learning of fractions related to the Common Core State Standards for Mathematics. Participants will explore a task approach to fraction instruction that focuses on student understanding of fraction concepts and invented algorithms for operating on fractions.

Terri Parker

Charlotte-Mecklenburg Schools, North Carolina

Drew Polly

University of North Carolina at Charlotte

Amy Lehe

Charlotte-Mecklenburg Schools, North Carolina

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

18

Nurturing Mathematical Thinking through Art

(3–5) Gallery Workshop

Through hands-on art, reflection, sample units, and video, discover how mathematical thinking can be strengthened when teachers work with art and math specialists, maintaining rigor in both disciplines. Based on a federal Arts in Education Model Development and Dissemination project integrating visual art into grades 3–5 in urban SINI schools.

Aline M. Hill-Ries

Studio in a School, New York, New York

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

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8:30 A.M.–10:00 A.M.

19 Great Tasks to Assess the Common Core Mathematics Practices

(3–8) Gallery Workshop

I will share three great tasks that revolve around an interesting problem with many methods of solution. The tasks are aligned with specific standards and practices and have multiple components. They start with a launch, progress to a core task, and include extensions. The session will include student work and rubrics. Topics will be data, geometry, and algebraic reasoning.

Connie S. Schrock
Emporia State University, Kansas

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

20 A Day in Giant Land

(6–8) Gallery Workshop

Receive classroom-ready handouts for engaging activities that use a map of Giant Land and objects found there. See our own similar items, to explore measurement, ratio, proportion, and scale factor to predict how big a student is in Giant Land. We will also share extensions into linear functions.

Lymeda Singleton
Texas A&M University—Commerce, Lubbock

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

21 Crime Scene Investigation: Connecting Math and Science with Problem-Based Learning

(6–8) Gallery Workshop

Capture or develop your students' interest in math or science by teaching a problem-based learning crime scene investigation unit. Students develop skills in linear relationships, probability, observation versus inference, and persuasive writing as they examine shoe prints, fingerprints, and hair samples to determine the suspect and then put her on trial.

Patricia Trafton
Lincoln Middle School, Schiller Park School District 81, Illinois

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

22 Evoking Core Mathematical Practices in Middle School

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

Using hands-on activities and videotapes of middle school teacher participants in a summer institute, this presentation demonstrates ways to evoke “spontaneous” enactment of the Mathematical Practices recommended by the Common Core State Standards. Through facilitated discussion, we will analyze the videotapes and explore these methods.

Amy Cohen
Rutgers University, New Brunswick, New Jersey

Lynda Ginsburg
Rutgers University, New Brunswick, New Jersey

COLUMBUS HALL IJ (EAST TOWER, GOLD LEVEL)

23 Using CAS with Struggling Algebra Students

(9–12) Gallery Workshop

CAS in algebra 1: how we plan, create, and use CAS activities, and provide opportunities for students to be successful and challenged without becoming CAS dependent. Be the student and try various classroom activities to experience CAS firsthand. See how students can construct their own mathematical knowledge prior to or without taking notes.

Derek Swierczek
Wheeling High School, District 214, Illinois

Ken Indeck
Wheeling High School, District 214, Illinois

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

24 Incorporate Interactive, Colorful Activities into Your Mathematics Classroom for Free

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

Get creative activities for all math courses from algebra 1 through AP Calculus. These colorful, student-paced activities help learners develop conceptual understanding, discover the math, investigate, and more. Teachers and students can interact with these activities by using the free Web-based TI-Nspire Document Player or a TI-Nspire handheld. Obtain more than 200 activities and PEZ.

Tom Reardon
Youngstown State University, Ohio

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

9:30 A.M.–10:30 A.M.



25

Learn↔Reflect Kickoff Session: Promoting Reasoning and Proving across the Grades

(General Interest) Session

Focus on ways to enhance the role of reasoning and proving in K–12 mathematics. In particular, the session will help teachers learn to recognize as well as capitalize on classroom and curricular opportunities to engage students in reasoning and proving.

Eric J. Knuth
University of Wisconsin—Madison

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

26

Can Children Reason Algebraically?

(Pre-K–5) Session

Although much evidence exists on how children reason algebraically, we know less about whether this evidence represents what children can do in typical classrooms. This presentation examines both within-grade impacts of a grades 3–5 early algebra classroom intervention and the nature of children’s algebraic reasoning from this intervention.

Maria Blanton
TERC, Cambridge, Massachusetts

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

27

How a Mathematician Invented Kindergarten

(Pre-K–5) Session

Gain new perspective on Friedrich Froebel’s original “gifts” and methods used in the first kindergarten. Discover how Froebel’s choice of geometrical and spatial education offered in the first kindergartens influenced the creative works of 20th century artists and architects.

Aniceta Skowron
Geometro, Ancaster, Canada

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

28

Learning the Language: Math Talk for Math Language Learners

(Pre-K–5) Session

The workshop will focus on using vocabulary in early childhood classrooms (Pre-K–grade 3) and increasing “math talk” in the development of concepts of ordinal numbers, addition and subtraction, and abstract symbols.

Marie KIELTY
Early Math Consultant, Chicago, Illinois

Mary N. Wonderlick
Early Childhood Consultant, Chicago, Illinois

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

29

Impact of Mathematics Specialists on K–8 Instruction and Student Success

(3–8, Research) Session

Learn the results of two projects to train and study mathematics specialists in Virginia’s elementary schools, followed by the outline of our current middle-level project. I will share findings about the role of mathematics specialists in schools and their impact on student achievement.

Aimee J. Ellington
Virginia Commonwealth University, Richmond

GOLD COAST (EAST TOWER, BRONZE LEVEL)

30

Volume Measurement: Going Beyond the Formulas with the Common Core

(3–8) Session

Discover how to enhance your curriculum with nonroutine volume measurement problems. We will share video of students engaged in tasks designed to encourage an understanding of what the formulas mean and why they work. Come explore students’ strategies and leave with new volume tasks that will help you enact the Common Core in your classroom.

Melike Kara
Illinois State University, Normal

Cheryl Eames
Illinois State University, Normal

Jeffrey E. Barrett
Illinois State University, Normal

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

THURSDAY



9:30 A.M.–10:30 A.M.

31 Mathematics + Art = Deep Learning

(6–8) Session

Participants will explore how students used geometry and measurement, ratios and proportional relationships, and algebraic thinking to examine the detailed mathematics behind moving an entire art collection (the Barnes Collection in Philadelphia). See how students created multiple scale models.

Sarah B. Bush

Bellarmine University, Louisville, Kentucky

Karen Karp

University of Louisville, Kentucky

Jennifer Nadler

The Barnes Foundation, Merion, Pennsylvania

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

32 Strategies in Mathematics: Teaching the Core Curriculum Standards

(6–12) Session

We will present several mathematical topics from the Core Curriculum Standards and the mathematical basis for understanding these standards. The topics will include rational numbers, decimal expansions, greatest common divisors, prime factorization, and approaches to geometry. We outline several strategies for dealing with each of these problems.

Paul J. Sally

Department of Mathematics University of Chicago, Illinois

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

33 Math Song Sing-Along

(9–12) Session

Relax and enjoy as some of your favorite math topics are done in verse. We'll sing some of your favorite math songs from the unofficial ICTM songbook and a few new ones as well. Please bring your own to share. We'll all learn something new and have a rocking time.

Dane R. Camp

Board of Directors, National Council of Teachers of Mathematics; Iolani School, Hawaii

John Carter

Stevenson High School, Lincolnshire, Illinois

Diane Mueller

Augustana University, Rock Island, Illinois

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

34 Comparing Approaches for Summer Math Enrichment Programs for Incoming Freshmen

(9–12, Higher Education) Session

Since summer 2009, Harris-Stowe State University has run a Science and Math Academy for incoming freshmen. We present how our approaches have developed from a primarily traditional approach to one focusing more on hands-on activities and encountering mathematics in context. We provide examples of activities and share data comparing the approaches.

Ann Podleski

Harris-Stowe State University, St. Louis, Missouri

Jonathan Corbett

Harris-Stowe State University, St. Louis, Missouri

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

35 Mathematical Modeling: The Core of the Common Core State Standards

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

As a Common Core Content Standard and a Standard for Mathematical Practice, mathematical modeling affords a rich opportunity around which to develop and unify the mathematical content of the high school conceptual categories and related mathematical practices. We will examine several illustrative modeling tasks in terms of teaching and learning.

Christian Hirsch

Western Michigan University, Kalamazoo

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

10:00 A.M.–11:00 A.M.

ew 35.1 Cracking the Code of Algebra

(3–9) Exhibitor Workshop

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

Henry Borenson

Borenson and Associates, Inc., Allentown, Pennsylvania

WATER TOWER (WEST TOWER, BRONZE LEVEL)

10:00 A.M.–11:00 A.M.

ew 35.2
Math Expressions—Building a New Standard of Success

(K–6) Exhibitor Workshop

Come learn about Math Expressions© and experience for yourself why this elementary math program is the program of choice for teachers across the country. Math Expressions is a comprehensive grades K–6 curriculum that offers new ways to teach and learn the rigorous mathematics laid out in the CCSS.

Donna Long
Houghton Mifflin Harcourt, Austin, Texas

GRAND SUITE 3 (EAST TOWER, GOLD LEVEL)

ew 35.3
enVisionMATH Common Core: What Does Teaching through Mathematical Practice Look Like?

(K–8) Exhibitor Workshop

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

Pearson
Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

10:30 A.M.–12:00 P.M.

36
Developing Number Relations as a Foundation for Basic Fact Strategies

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

This session demonstrates short (ten minute) daily standards-based lessons that enable children to build number relations by using visual patterns, ten frames, hundreds charts, games, calculators, and children’s literature. These activities help children grow in mathematical thinking and confidence and then serve as a foundation for developing basic fact strategies.

William B. Weber
The University of Toledo, Ohio

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

37
Differentiating Math Instruction through a “Centers/Guided Math” Approach

(Pre-K–5) Gallery Workshop

Learn about using centers and Guided Math as tools for differentiating math instruction. Explore various ways to implement these structures, and consider which types of activities work well in small-group formats, as well as how to use these formats to maintain rigor and engage all students in mathematical practices.

Debbie Leslie
University of Chicago, Center for Elementary Mathematics and Science Education, Illinois

Denise Porter
University of Chicago, Illinois

Rebecca Maxcy
University of Chicago, Illinois

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

THURSDAY

Cracking the Code of Algebra

Thursday, November 29
10:00 a.m. - 11:00 a.m.
Water Tower

Speaker:
Dr. Henry Borenson

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10:30 A.M.–12:00 P.M.

38 Shuffling into Math: Primary School Math Games

(Pre-K–5) Gallery Workshop

Come prepared to play card, dice, and domino games that help your primary school students succeed in numeration, operations, place value, patterning, and graphing. We will share excellent take-home ideas, game boards, student samples, and more. Great for regular, ESL, and after-school programs.

Jane Felling

Box Cars & One-Eyed Jacks, Edmonton, Canada

COLUMBUS HALL 1J (EAST TOWER, GOLD LEVEL)

39 Touching Mathematics: Geometric and Measurement Explorations on the iPad

(3–5) Gallery Workshop

Experience new ways to interact with mathematics by using the multitouch technology of the iPad. You will interact with new and innovative activities that engage your elementary school students in explorations of geometric transformations, measurement, and estimation. You will also learn how to incorporate these activities in your classroom.

Ryan M. Robidoux

University of Massachusetts, Dartmouth

Stephen J. Hegedus

University of Massachusetts, Dartmouth

Beste Güçler

University of Massachusetts, Dartmouth

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

40 “If Only They Knew Their Facts . . .”

(3–8) Gallery Workshop

Why isn't fluency enough? How do we tie fluency to the complex transfer abilities we strive to develop in our students? In this interactive workshop, teachers explore and devise strategies that build students' fluency while developing strategic thinking and problem-solving abilities, leading to transfer.

Julianne DesOrmeaux

Independent Consultant, Rochester, New York

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

41 Unpacking Geometry Problems from Boxes You Make

(3–8) Gallery Workshop

You will transform used greeting cards into useful boxes—useful for small-item storage—but more important, you will discover real-life and challenging geometry concepts, make conjectures, and answer probing questions about parallelograms, rectangles, squares, and other quadrilaterals. We will also cover ratio, proportion, area, and volume.

Nicholas Restivo

Mathematical Olympiads for Elementary and Middle Schools, Bellmore, New York

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

42 Solving Problems to Understand Linear, Exponential, and Quadratic Functions

(6–12) Gallery Workshop

Begin with a hands-on activity, proceed to a table of data, move on to a graphical representation of the data, and finally write the function. The Tower of Hanoi and the handshake problem are just two of this session's activities.

Anne Jacobs

Wilmette Junior High School, Illinois

Sharon Rak

Roosevelt University, Chicago, Illinois

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

43 Designing Monte Carlo Simulations by Using TI-Nspire Technology

(9–12) Gallery Workshop

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

Natalie Jakucyn

Glenbrook South High School, Glenview, Illinois

Kenneth Kerr

Glenbrook South High School, Glenview, Illinois

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

10:30 A.M.–12:00 P.M.

44

Origamics: Problem Solving with Patty Paper

(9–12) Gallery Workshop

Origamics is the exploration of mathematical patterns through paper folding. Come join us as we explore a range of geometry problems created with a few folds on patty paper.

Michael Serra
Author, San Francisco, California

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

45

The Volume of an Eggplant: Volume of Rotation

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

Groups will use the symmetric properties of an eggplant to create a hands-on lab to find the volume of a solid of rotation. The project design includes modeling data with a polynomial that drives the work through sums to integration. The use of the user-friendly but unusual object ensures that students retain the thinking behind the method.

Suzanne B. Antink
Palo Alto Unified School District, California

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

46

New and Preservice Teachers Workshop

(Preservice and In-Service) Gallery Workshop

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

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

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

11:00 A.M.–12:00 P.M.

47

Bridging the Gap: Transitioning from Elementary to Middle School Math

(General Interest) Session

The transition from elementary to middle school math is often not easy for students and for their teachers. We'll explore the mind shifts that need to take place to help students move from arithmetic-based to abstract-based curriculum while preserving their curiosity and interest in the world of math. We will emphasize the Common Core State Standards.

Melinda R. Griffin
Williamsburg-James City County Public Schools, Virginia

Kay Bennett
Gloucester County Public Schools, Virginia

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

48

RtI Interventions: What's Best and Where's the Time?

(General Interest) Session

Finding appropriate interventions—and the time to implement them—can be a challenge. This presentation offers practical tips for selecting and implementing effective interventions to improve student learning and achievement, without losing your sanity. We will discuss both classroom (small group/individual) and whole-school interventions.

Kathy A. Felt
Sherrard CUSD #200, Illinois

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

49

The Making of *Flatland 2: Sphereland*

(General Interest) Session

Join writer/director Dano Johnson and producer Seth Caplan for exclusive clips and behind-the-scenes insight into the new film *Flatland 2: Sphereland*. Take a sneak peek into the mathematics of making the new animated film, and catch exclusive clips featuring math lessons from the movie. <http://www.spherelandthemovie.com>

Seth Caplan
Flat World Productions, Austin, Texas

Dano Johnson
Flat World Productions, Austin, Texas

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

THURSDAY

11:00 A.M.–12:00 P.M.



50

Games to Develop Number Sense: Creating Student Success*(Pre-K–2) Session*

Be more efficient and selective about time devoted to number. A ready-to-use handout of highly engaging, repeatable activities and instructional strategies will help you enhance number sense and build confidence in your students.

Laura Choate

Fallbrook Union Elementary School District, California

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)



51

Teaching the Arithmetic Properties with Instruction That Promotes Mathematical Argumentation*(3–5) Session*

Participants will learn about a series of lessons developed to improve students' understanding of the arithmetic properties, make meaningful connections to other areas of mathematics, prepare students for early algebra, and encourage mathematical argumentation.

Chepina Witkowski Rumsey

University of Kansas, Lawrence

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

52

Bringing Real-Life Mathematics to a Fifth-Grade Classroom*(3–5, Higher Education) Session*

How real is mathematics to a fifth-grade student? Does a fifth-grade student understand what a research mathematician does? In winter 2011, Dr. Susan Cooper joined Kyla Hall and her fifth graders to explore an applied mathematics project adapted from a graduate course. This talk will share the journey of the speakers and students.

Susan M. Cooper

Central Michigan University, Mount Pleasant

Kyla F. Hall

Lincoln Public Schools, Nebraska

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)



53

Exploring Multiplicative Connections: From Dot Arrays to Double Distribution*(3–8) Session*

In the spirit of NCTM's call for reasoning and sense making, this session will discuss materials, show student work, and describe pedagogical moves to help students make connections among number, multiplication, and algebraic operations. Student work will show modeling multiplication with dot arrays and extending those ideas to algebraic thinking.

Gabriel T. Matney

Bowling Green State University, Ohio

Brooke Daugherty

Santa Fe South Schools, Oklahoma City, Oklahoma

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

54

Cryptography and Mathematics for Future Middle School Teachers*(6–8, Preservice and In-Service) Session*

Learning cryptography involves many of the concepts that middle school students face in the transition from arithmetic to algebra: arithmetic patterns, inverses, factors, functions, and solving linear equations. Learn how preservice teachers expand their mathematical knowledge while learning about teaching cryptography in middle school.

Bonnie Saunders

University of Illinois at Chicago, Illinois

Janet Beissinger

University of Illinois at Chicago, Illinois

GOLD COAST (EAST TOWER, BRONZE LEVEL)

55

Student Thinking about Data When Gathering or Analyzing Samples*(6–12, Research) Session*

Discover important links between research on students' thinking about samples and sampling, and our teaching of some of the important ideas about analyzing distributions of data—including shape, center, and variability—that are included in the Common Core State Standards for Mathematics.

J. Michael Shaughnessy

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

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

11:00 A.M.–12:00 P.M.



56

The Thrill of the Chase: Deductive Reasoning with Angle Chasing

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

Too often, students' introduction to proof consists of the study of formal axiomatic systems. In this interactive presentation, we highlight how angle chasing—mathematics puzzles with unknown angles to be solved—may be used in conjunction with GeoGebra dynamic mathematics software to promote deductive thought prior to formal proof.

Michael Todd Edwards
Miami University, Oxford, USA

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

56.1

E Unum Pluribus? One Experiment with Many Learning Opportunities

(9–12) Session

Forgive our Latin! A simple experiment using springs and weights leads to analysis that can involve many kinds of math and technology, from trig to logs and exponentials, linear fits and residual analysis to calculus, spreadsheets to graphing tools. You can focus on any one or all of these areas, with students from algebra 2 to calculus.

Micah Fogel
Illinois Mathematics and Science Academy, Aurora

Janice Krouse
Illinois Mathematics and Science Academy, Aurora

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

11:30 A.M.–12:30 P.M.



56.2

Experience the Common Core State Standards through Investigations and the Common Core

(K–5) Exhibitor Workshop

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

Pearson
Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

ew 56.3

Making Every Day Count with Classroom Discussion: See the Mathematical Practices in Action Daily

Exhibitor Workshop

Discover how daily math discussion centered on a calendar can help students develop mathematical competence and confidence. Emphasis will be placed on developing math vocabulary, visualizing mathematics, and implementing the mathematical practices daily.

Patsy Kanter
Houghton Mifflin Harcourt, Austin, Texas

GRAND SUITE 3 (EAST TOWER, GOLD LEVEL)

12:30 P.M.–1:30 P.M.

57

Fact Fluency: What, Why, When, How

(General Interest) Session

Join *New York Times* best-selling *The Grapes of Math* and Kakooma author Greg Tang as we explore what true fluency means, why it's crucial, when kids need it, and most important, how we can help them achieve it. This session will introduce new criteria for evaluating fluency, together with data on student performance that will astound you. It just may be time to rethink what it means to be fluent and "good in math."

Greg Tang
Scholastic, New York, New York

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

58

How Are Teachers Managing Their Classrooms and Preserving Cognitive Demand?

(General Interest) Session

Classroom management is a concern of both novice and more experienced teachers, because it affects students' mathematical learning and achievement levels. This session will share findings from research regarding how classroom management can affect the cognitive demand level of mathematical tasks in urban classrooms.

Candace Barriteau Phaire
New York University, New York

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

THURSDAY

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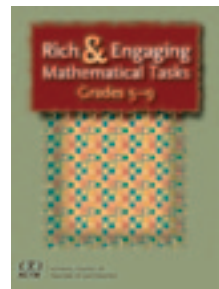
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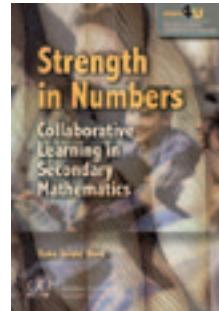
Wednesday 5:00 pm – 7:00 pm
 Thursday 7:00 am – 5:00 pm
 Friday 8:00 am – 4:00 pm

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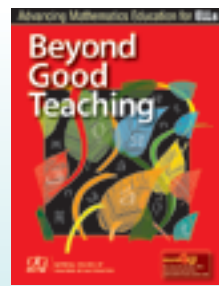
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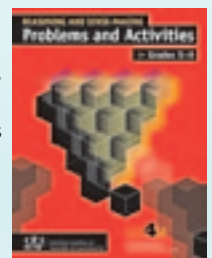
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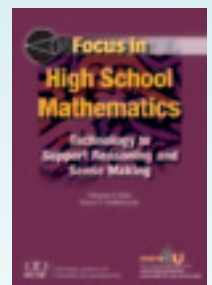
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12:30 P.M.–1:30 P.M.

59

Developing a K–2 Standards-Based Math Program and Assessment System

(Pre-K–2) Session

I will share Stillwater Area Public School's path to a standards-based K–2 math program, comprehensive assessment system, and intervention programming. I will also present teacher-created common assessments, pacing calendars, and report card resources.

Amy B. Jones

Stillwater Area Public Schools, Minnesota

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

LOR

62

Increased Discourse and Technology in Mathematics Instruction

(6–8) Session

Recent public policy addresses the need to strengthen mathematics communication and reasoning skills. Sixth-grade students turned a flow map into a radio script, which was ultimately posted as a podcast on the classroom's website. Precise vocabulary, proper sequences, and accuracy of answers increased.

Cory A. Hansen

Arizona State University, Phoenix

Carol Shea

Arizona State University, Phoenix

Kathleen Puckett

Arizona State University, Phoenix

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

LOR

60

Transitioning to the CCSSM at the Primary Level

(Pre-K–2) Session

This workshop will give teachers activities and strategies to support their deepening of number instruction in the primary grades. Our examination of number incorporates base-ten frames, rekenreks, number talks, and videos. Handouts will be provided.

Polly J. Hill

Champaign Unit 4 School District, Illinois

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

LOR

61

Proving Operations with Numbers by Using Manipulatives

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

We will explore number theory topics found in the Common Core State Standards and discuss ways to support student engagement in proof and reasoning. Participants will create proofs for operations with numbers by using manipulatives such as Unifix cubes and base-ten blocks. I will share implications for mathematics teacher educators and teachers.

Jonathan David Bostic

Bowling Green State University, Ohio

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

63

Seeing Patterns and Structure: Connecting Elementary and Middle Grades Mathematics

(6–8) Session

Come explore how the Common Core State Standards of Practice 7 (making use of structure) and 8 (looking for regularity) can help students make connections from elementary school math topics to middle grades math topics. Examples will come from number and operations (whole and rational numbers), patterns and algebraic thinking, and proportional reasoning.

Pamela J. Wells

Grand Valley State University, Allendale, Michigan

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

64

Reasoning and Sense-Making: Pattern Generalization

(6–12) Session

According to NCTM, students should be involved in reasoning and sense making daily. Work from algebra students familiar with linear equations who were reasoning about how to model a non-linear situation from a given pattern will be explored and discussed. The extension of their current understandings highlights reasoning and sense making.

Stephanie R. Whitney

DePaul University, Chicago, Illinois

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

THURSDAY

12:30 P.M.–1:30 P.M.



65

Geometric Proof: How Do We Get Started?

(9–12) Session

Explore and discuss the use of puzzles, technology, and paragraph or flow proofs to promote the development of oral and written communication of student reasoning and sense making in geometry.

Jerel L. Welker

Lincoln Public Schools, Nebraska

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

66

Transitions to College Math

(9–12, Higher Education) Session

A team of University of Wisconsin–Platteville math faculty initiated a two-year state-funded project with college students and area high school teachers to improve students' transition from high school to college math. The goal was to increase student success in their first college math class. We invite discussion as we share our findings.

Julia K. McDonald

University of Wisconsin-Platteville

David C. Boyles

University of Wisconsin-Platteville

GOLD COAST (EAST TOWER, BRONZE LEVEL)

12:30 P.M.–2:00 P.M.

68

Algebra Is Elementary: Exploring Algebraic Thinking in the Common Core

(Pre-K–2) Gallery Workshop

Come explore activities that promote algebraic thinking in grades K–2 classrooms. These activities align with the Common Core State Standards and support the Standards for Mathematical Practice.

Drew Polly

University of North Carolina at Charlotte

Amy Lehew

Charlotte-Mecklenburg Schools, North Carolina

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

69

Yabba-Dabba Do—Subitizing, Composition, and Decomposition: Bedrocks of Numeracy

(Pre-K–2) Gallery Workshop

Engage in activities and discourse selected to deepen essential understanding of subitizing, composition, and decomposition of numbers. I will share Common Core State Standards–based activities that you can incorporate into the classroom to facilitate connections among quantity, representation, and symbols.

Marti Kuntz

Educational Resources Group, Charleston, South Carolina

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

70

Problem Solving: Looking beyond Obvious

(Pre-K–5) Gallery Workshop

Review, classify, solve, and write different types of word problems. Identify various problems by using cues to determine the type of operation to be performed. This strategy involves looking past key words and focusing on the information supplied, as well as what is unknown, to arrive at the solution.

Rhonda C. Harris

Norfolk Public Schools, Virginia

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

THURSDAY

Get Speaker Handouts!
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to access available session
handouts.

12:30 P.M.–2:00 P.M.

71 Engaging and Free Online Resources for Teaching Operations and Fractions

(3–5) Gallery Workshop

Experience classroom-ready lessons using free online apps from NCTM. All resources will be selected from 600+ lessons and 100+ apps that appear on Illuminations (<http://illuminations.nctm.org>). Lessons will involve the four operations, fractions, and the order of operations, and attendees will discuss possible modifications for their classrooms.

Patrick Vennebush

National Council of Teachers of Mathematics, Reston, Virginia

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

72 Using Frayer Diagrams to Deepen Students' Understanding of Shapes

(3–5) Gallery Workshop

Frayer diagrams offer learners opportunities to develop complex definitions of shapes, using examples and nonexamples. This session will provide an example set of lessons for triangles that has been used as an intervention. Teachers can use the lesson sequence and format in a variety of grade levels, with either whole classes or small groups.

Lori Williams

Manitowoc Public School District, Canada

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

73 Using Manipulatives and Singapore Math Strategies in Intermediate School Classrooms

(3–5) Gallery Workshop

Fractions, decimals, percentages, and word problems are difficult for many students. Exploring these topics through the use of manipulatives and pictures allows intermediate school students to gain conceptual understanding. Appealing to visual and kinesthetic learners, in addition to increasing student engagement, benefits all students.

Tricia N. Salerno

SMARTTraining, LLC, Phoenix, Arizona

COLUMBUS HALL IJ (EAST TOWER, GOLD LEVEL)

74 Pictures and Portions: Understanding Fractions through Contexts and Representations

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

Learn about a lesson study enacted by a diverse group involving division of fractional quantities. Discover and examine powerful settings and contexts to promote conceptual understanding in this historically challenging area of mathematics, and view clips from an implementation of the lesson.

Catherine L. Lane

University of Cincinnati Clermont College, Batavia, Ohio

Shelly Harkness

University of Cincinnati, Ohio

Jonathan Thomas

Northern Kentucky University, Highland Heights

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

75 Cooperate, Investigate, and Process with Geofix Shapes

(6–8) Gallery Workshop

Geometric solids offer perspectives from which students can investigate and solve problems. The activities allow students to create meaningful definitions for various figures. Euler's formula, Platonic solids, nets, and simple identification of basic shapes become exciting. Soap bubbles become interesting with the mathematics that "pops" out.

Don Balka

Saint Mary's College, Notre Dame, Indiana

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

76 Creating Logic Puzzles for Your Classroom

(6–12) Gallery Workshop

Merge your left-brain logic with your right-brain creativity in this interactive workshop. Participants will investigate two types of logic puzzles—Slitherlink and Ripple Effect—and how to create examples for their students to solve. These puzzles are great for helping students develop proof-readiness skills through spatial and deductive reasoning.

Jeffrey J. Wanko

Miami University, Oxford, Ohio

Benjamin L. Walker

Golder College Prep High School, Chicago, Illinois

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

THURSDAY

12:30 P.M.–2:00 P.M.

77

NASA's Supernova Mathematics

(6–12) Gallery Workshop

Use classroom mathematics concepts to investigate supernova mysteries. Ratios, proportions, similar triangles, conversions, and formulas are the keys to answering questions about this exciting and explosive topic. Free NASA materials will be available.

Janet L. Moore

National Aeronautics and Space Administration (NASA),
Rohnert Park, California

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

78

Looking at Functions from Multiple Perspectives

(9–12) Gallery Workshop

Experiment with activities that challenge students to examine functions numerically, graphically, symbolically, and verbally.

Kay A. Wohlhuter

University of Minnesota Duluth

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

1:00 P.M.–2:00 P.M.

ew

78.1

CCSS Math Practices? Trust CPM's 20 Years of Writing Experience!

(6–12) Exhibitor Workshop

Try some lessons and take home samples of CPM's Core Connections series (© 2013). The "third generation" of CPM blends CCSS content and practice standards in a coherent sequence from sixth grade through algebra 2. Course elements include problem solving, mathematical thinking, problem-based lessons, and mathematical discourse in a student-centered format.

CPM Educational Program

Sacramento, California

WATER TOWER (WEST TOWER, BRONZE LEVEL)

ew 78.2

Navigating Your Way through the Fraction Story of the Common Core

(1–5) Exhibitor Workshop

One approach to the story of fractions is to build on students' understanding of counting and whole number arithmetic and extend this previous knowledge to the study of fractions. This session will focus on conceptual understanding of the "knotty" topic of fractions, including connections to equal partitioning and unitizing. Video clips will be used to examine the conceptions many students have that allow them to complete some tasks successfully but that prove inadequate in other contexts.

Pearson

Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

ew 78.3

Rhymes 'n' Times

(General Interest) Exhibitor Workshop

This hands-on, MUST-GO session promises to be tons of fun while showing how to teach the times tables quickly and easily with a nontraditional method. Without being trained, participants will teach multisensory lessons using all four learning styles, and they will learn how to teach the 10s, 11s, and 12s in less than one minute! Other math skills to teach addition, subtraction, and division with a nontraditional, fun method will be introduced as well.

Rhymes 'n' Times

Lewisville, Texas

GRAND SUITE (EAST TOWER, GOLD LEVEL)

2:00 P.M.–3:00 P.M.

79

Number Talks: A Path to Numerical Reasoning

(General Interest) Session

This session introduces number talks and shows how this classroom routine can support students in developing accurate, efficient, and flexible computation strategies. Classroom video clips will highlight the goals of number talks and how they address the Common Core State Standards and Mathematical Practices.

Sherry D. Parrish

University of Alabama at Birmingham

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

2:00 P.M.–3:00 P.M.

80 Perspectives of Mathematics and Art from Traditional Mexican Artists

(General Interest) Session

We will discuss results of interviews I conducted regarding math and art, using questions such as “How do you create symmetry patterns?” and “How has school math helped you in learning to make your art?” We will also discuss how you can use examples of artwork to teach concepts such as symmetry and the cultural aspects of art and mathematics.

Thomas E. Gilsdorf
TODOS, and University of North Dakota, Grand Forks

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

83 Making Common Core State Standards Come Alive through Hands-On Fractions

(Pre-K–5) Session

This highly interactive presentation will connect fractions to real-life problem-solving situations and assessment as related to the Common Core State Standards. The session will include strategies for maximizing all students’ potential, including regular and special education. Participants will receive a comprehensive handout with materials.

Joan J. Vas
Kean University, Union, New Jersey

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

LOR 81 Engaging Children in Mathematics through Comparison

(Pre-K–2) Session

Children can be introduced to the elements of early algebra through quantitative reasoning. This approach is based on relations of quantities through measures. Teachers will explore how children begin to compare physical quantities by using equality/inequality statements and how children approach the concept of number as relations among quantities.

Ozgul Kartal
Illinois Institute of Technology, Chicago

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

LOR 84 Interviewing Students to Learn about Their Algebraic Reasoning

(3–8) Session

In this interactive session, we will examine examples of teacher interviews with students to identify what teachers learn by analyzing their own questions. The interviews focus on examining how students engage with mathematical reasoning in questions such as *Is this number sentence true? $19 + 6 = 20 + 5$ and How do you know they are equal? 3×16 and 6×8*

Virginia Bastable
Mount Holyoke College, South Hadley, Massachusetts

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

LOR 85 The Algebraic Solution: Is It Always the Best Solution?


(6–8) Session

This session will challenge the widespread notion that the algebraic solution of a problem is always the most efficient. We will give you a selection of problems where other forms of solution turn out to be more elegant ways of problem solving, and certainly more accessible to many middle and even high school students.

Jenny K. Tsankova
Roger Williams University, Bristol, Rhode Island

James R. Matthews
Siena College, Loudonville, New York

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)



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THURSDAY

2:00 P.M.–3:00 P.M.

LCR

86 The Proof Process from Start to Finish

(6–12) Session

Many students struggle with proof because it is often taught as an isolated topic rather than being connected to other forms of reasoning. Using hands-on activities, we will examine a method of teaching proofs that focuses on using inductive and deductive reasoning to lead to carefully written proofs and mathematical understanding.

Matthew C. Chedister
Boston University, Massachusetts

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

87 Mathematics Instruction Using Decision Science and Engineering Tools

(9–12, Higher Education) Session

This curriculum uses decision-making tools from industrial and systems engineering and operations research. Goals are to improve math students' ability to formulate and solve multi-step problems and interpret results, and to improve students' attitude. Sample activities will be presented, and attendees will receive sample chapters.

Sarah D. Johnson
UNC Charlotte, Center STEM, North Carolina

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

88 Developing an Online Math Course: Moving into the Twenty-First Century

(Higher Education) Session

This presentation will discuss how to develop an online math course by using a learning management system. We will compare online classes with on-campus classes. The presentation will include guided steps to prepare an online course. Finally, I will share a sample of an online math course.

Asma Akhras
Moraine Valley Community College, Palos Hills, Illinois

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

89 Mathematics Performance and Mathematics Self-Constructs in College Students

(Higher Education, Research) Session

The study investigated whether mathematics constructs (anxiety, self-efficacy, and self-concept) predict mathematics performance in college students. Mathematics self-efficacy was the only predictor. When we added gender to the model, mathematics self-efficacy was no longer significant; this means that gender is a mediator.

Nandini Bhowmick
University of Minnesota Duluth

Insoon Han
University of Minnesota Duluth

GOLD COAST (EAST TOWER, BRONZE LEVEL)

2:30 P.M.–3:30 P.M.

ew 90 ORIGO: Stepping into Common Core Math

(K–5) Exhibitor Workshop

Schools across the USA are dealing with great challenges. Decreased funding and Common Core State Standards require a fundamental change of approach. Join James Burnett, president and publisher, as he shows how ORIGO has built on its reputation of innovation to develop Stepping Stones—a comprehensive online core math program that has captured the spirit of the CCSS.

James Burnett
ORIGO Education, Earth City, Missouri

WATER TOWER (WEST TOWER, BRONZE LEVEL)

ew 90.1 Pearson's digits Program: Where Math Clicks!

(6–8) Exhibitor Workshop

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

Pearson
Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

THURSDAY

2:30 P.M.–3:30 P.M.

ew 90.2
Rhymes 'n' Times

(General Interest) Exhibitor Workshop

This hands-on, MUST-GO session promises to be tons of fun while showing how to teach the times tables quickly and easily with a nontraditional method. Without being trained, participants will teach multisensory lessons using all four learning styles, and they will learn how to teach the 10s, 11s, and 12s in less than one minute! Other math skills to teach addition, subtraction, and division with a nontraditional, fun method will be introduced as well.

Rhymes 'n' Times
Lewisville, Texas

GRAND SUITE (EAST TOWER, GOLD LEVEL)

2:30 P.M.–4:00 P.M.

91
Developing Procedural Fluency with Basic Facts: Addition and Subtraction

(Pre-K–2) Gallery Workshop

Learn a strategy for developing addition and subtraction facts and then receive several activities that will develop automaticity with these basic facts. Procedural fluency with basic facts is one of the major prerequisites for students to succeed with the algorithms for multidigit addition and subtraction.

Ben H. Lindeman
New York State Education Department (Retired), Albany

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

92
Skillful Mathematics Teaching with Differentiated Planning and Assessment

(Pre-K–5) Gallery Workshop

This presentation focuses on tools for skillful planning of mathematics instruction and assessment using the NCTM and Common Core State Standards for Mathematics. Discover proven assessment methods to address the varied needs of all your mathematics learners, and explore how to use these results to differentiate instruction.

E. Todd Brown
University of Louisville, Kentucky

Kimberley A. Englert
Jefferson County Public Schools, Louisville, Kentucky

Debbi A. Wyman
Jefferson County Public Schools, Louisville, Kentucky

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

93
Using Nonroutine Problems to Promote Reasoning and Sense Making

(Pre-K–5) Gallery Workshop

Nonroutine problems have no standard algorithm for solving and often have high cognitive demand, which can engage students in their own learning process. These mathematically rich problems can be used as a purposeful basis for classroom discussion and formative assessment, which can lead to meaningful connections.

Kelly C. Georgius
University of Nebraska, Lincoln

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

94
Teaching Fractions in the Common Core State Standards

(3–5) Gallery Workshop

Learn how fraction manipulatives can help integrate the Common Core State Standards fractions content standards with the mathematical practices, to strengthen students' understanding. This presentation will model a variety of fraction manipulatives, including some related to number lines.

Sara Delano Moore
ETA/Cuisenaire, Vernon Hills, Illinois

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

95
Exploring Geometry and Measurement Concepts through Quilt Design

(3–8) Gallery Workshop

Participants will receive guidance in using Digi-quilt (a computer manipulative-based design environment) for student exploration of geometric and measurement concepts. Participants will also experience hands-on, inquiry-based approaches to learning the same mathematical concepts by using concrete materials.

Clare V. Bell
University of Missouri—Kansas City

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

THURSDAY

2:30 P.M.—4:00 P.M.

96 Teaching and Learning Mathematics with Historical and Cultural Quilt Blocks

(6–8) Gallery Workshop

Explore symmetry, fractions, shapes, patterns, graphing, problem solving, and other mathematical concepts by using quilt blocks associated with historical events and various cultures. Participants will create paper quilt blocks and discuss stories associated with the quilt blocks.

Edna L. Holbrook

Jackson State University, Mississippi

Alicia Jefferson

Jackson State University, Mississippi

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

97 Using Nonroutine Problems to Better Understand Students' Reasoning

(6–8) Gallery Workshop

Engaging students in writing about their reasoning to solve nonroutine problems can give teachers deep insights into what students understand. Work through a set of nonroutine problems and then discuss how (with rubrics provided) to use these to gain insight into student reasoning and sense making.

Garold J. Furse

Lincoln Public School District, Nebraska

COLUMBUS HALL 1J (EAST TOWER, GOLD LEVEL)

98 Developing Problem-Solving Abilities for Middle School Students

(6–12) Gallery Workshop

In this Gallery Workshop, participants will receive a collection of problems appropriate for middle school students. These items range from introductory problems to more advanced concepts. Participants will explore the problems, and we will discuss different approaches to modeling and solving problems.

Max L. Warshauer

Texas State University, San Marcos

Hiroko K. Warshauer

Texas State University, San Marcos

Nama Namakshi

Texas State University, San Marcos

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

99

Statistics Standards in the Common Core: Are We Ready?

(6–12) Gallery Workshop

The Common Core State Standards call for teaching basic statistical concepts in secondary school, including topics that are nuanced and often challenging for students, such as two-way tables, significant outcomes, and margin of error. What can we do to help students navigate through some of these traditionally elusive ideas, and what is the role of technology in the process?

Gail Burrill

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

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

100

Exponential Explorations

(9–12) Gallery Workshop

Exponential functions offer the opportunity to explore many mathematical concepts. In this Casio PRIZM workshop, we will explore engaging students by using realistic context for problems; generating examples by graph, pictures, data, and simulations; and selecting models by algebraic analysis, using transformations, and regression.

John Diehl

Casio Teacher Advisory Council, Plano, Texas

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

101

Helping At-Risk Students Visualize Mathematics through Technology

(9–12) Gallery Workshop

At-risk students struggle with visualizing math concepts. Using graphing software and interactive whiteboard technologies, I will show how these technologies enhance students' understanding of topics in algebra and geometry. These activities, professional development, and technology access helped my district earn state and national awards.

James William Kearns

Salem State University, Massachusetts

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

3:30 P.M.–4:30 P.M.



102

Learn↔Reflect Reflection Session

(General Interest) Session

This culmination session of the Learn↔Reflect strand will facilitate a discussion of four reflection questions. Those who attend the Kickoff, at least one Learn↔Reflect session, and the Reflection session will earn a personalized certificate.

Amber Bartelmey

Gregory Fischer Middle School, Aurora, Illinois

Zachary Herrmann

Evanston Township High School, Illinois

Marshall Lassak

Eastern Illinois University, Charleston

Jonica McBride

Eastern Illinois University, Charleston

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

103

Making the Workshop Work in Mathematics

(General Interest) Session

The session considers an instructional approach (known as the workshop model) used in literacy learning and demonstrates how to apply this model to the mathematics classroom. Learn the research behind the approach and explore several mathematics lessons and assignments that use the workshop model.

David C. Coffey

Grand Valley State University, Allendale, Michigan

Esther Billings

Grand Valley State University, Allendale, Michigan

John Golden

Grand Valley State University, Allendale, Michigan

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

104

Common Core State Standards Problem Solving: Fun and Easy

(Pre-K–2) Session

Learn how to meet Common Core State Standards in problem solving in just minutes a day at no cost to you. Incorporate a system of problem-solving strategies that will move your students from simple to complex and multistep problem solvers. Students will love the real-life applications. You will leave this session armed with ideas and examples.

Rena K. Pate

Primary Math Rules, Danville, Illinois

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

105

Engaging and Expanding Mathematical Learning for Every Student

(Pre-K–2) Session

In 2009, the National Research Council confirmed that young children have more mathematical knowledge than was previously believed. One of the great challenges for teachers of primary-aged students is the wide range of learners that appear in our classrooms each year. This session will focus on engaging tentative to robust learners.

Vicki A. Bachman

Iowa City Community Schools, Iowa

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

106

Developing Understanding of Data Analysis and Probability through Children's Literature

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

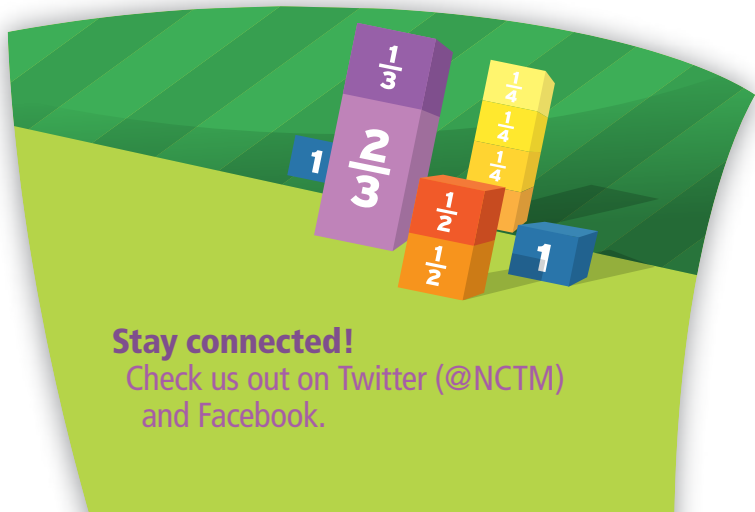
This presentation will describe strategies for integrating children's literature in mathematics lessons, using literature to situate mathematics learning as students ask natural questions. Explore and identify connections between real-world experiences and mathematics; engage with literature that promotes using mathematics to solve problems.

Lecretia A. Buckley

Jackson State University, Jackson, Mississippi

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

THURSDAY



Stay connected!

Check us out on Twitter (@NCTM) and Facebook.

3:30 P.M.—4:30 P.M.

107 Extending Length Measurement into the Middle School with CCSSM

(3–8) Session

We will share how researchers and a classroom teacher used a hypothetical learning trajectory to develop an open-ended classroom activity to engage students in a length measurement task that motivated the use of composite units and proportional reasoning. We will share student work.

Amanda L. Miller
Illinois State University, Normal

Craig Cullen
Illinois State University, Normal

Jeffrey E. Barrett
Illinois State, Normal, Illinois

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

108 It Starts with a Cube

(3–8) Session

A cube is the starting point for many rich problems involving even more math concepts. Work your way through factors, combinatorics, volume, surface area, networks, and more by solving Math Olympiad problems. A dozen of these cube problems offer a fresh approach to these topics. I will distribute more than fifty additional Math Olympiad problems.

Dennis C. Mulhearn
Math Olympiads for Elementary and Middle Schools, Bellmore, New York

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

109 Patterns, Patterns, Patterns!

(3–8) Session

In this grades 3–8 session, teachers will examine patterns in a variety of ways. They will explore patterns in the real world and applets that enable students to extend or create patterns, as well as use manipulatives to represent patterns. Finally, they will solve growing-pattern problems.

Marilyn E. Strutchens
Auburn University, Auburn, Alabama

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

110 Reclaiming Lost Ground: Research-Based Interventions for Underprepared Algebra Students

(6–12, Research) Session

Today, all students must succeed in algebra, including those who are underprepared. These students may need more time in algebra, but time alone is not sufficient. Learn about comprehensive, research-guided strategies and resources from mathematics learning, literacy, social psychology, and special education to help underprepared students.

James Lynn
University of Illinois at Chicago, Learning Sciences Research Institute, Chicago, Illinois

Timothy Stoelinga
University of Illinois at Chicago, Learning Sciences Research Institute, Chicago, Illinois

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

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

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

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

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

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

112 Introductory Statistics: Integrated E-Textbook + Game + Assessment

(Higher Education) Session

Innovative technologies have the power to transform statistics education. Based on research conducted at Harvard University and the University of Texas, the "Statistics 1" Curriculum integrates digital content, games, and assessment tools for mastering statistics. This session presents the revolutionary system and initial research from classroom use.

Priya Nihalani
Get Ya Learn On, LLC, Austin, Texas

Michael Mayrath
Get Ya Learn On, LLC, Austin, Texas

GOLD COAST (EAST TOWER, BRONZE LEVEL)

Friday Agenda

8:00
8:30
9:00
9:30
10:00
10:30
11:00
11:30
Noon
12:30
1:00
1:30
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3:00
3:30
4:00
4:30
5:00

ew Exhibitor Workshop

FRIDAY

HIGHLIGHTS

New Members and First Timers' Orientation (Presentation 113)

New and Preservice Teachers Workshop (Presentation 157)

Looking at CCSSM: It's Still about the (Principles and) Standards (Presentation 158)

REGISTRATION HOURS

7:00 a.m.–3:00 p.m.

EXHIBIT HOURS

8:00 a.m.–4:00 p.m.

BOOKSTORE AND MEMBER SHOWCASE HOURS

8:00 a.m.–4:00 p.m.

FIRE CODES

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

7:15 A.M.–7:45 A.M.

113 New Members and First Timers' Orientation

(General Interest) Session

New to NCTM? Join us to learn how to maximize your membership experience. From journals and online lessons, tools, and activities, to networking and career-advancement opportunities, you'll discover all that NCTM has to offer you. Also, learn how to make the most of your time at the conference.

Wendy Smith
University of Nebraska—Lincoln

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

8:00 A.M.–9:00 A.M.

114 From Kindergarten to College: Understanding Algebra at Every Grade

(General Interest) Session

The Common Core State Standards introduce students to algebraic concepts in the first grade. Unfortunately, the strategies used in elementary schools differ greatly from those in high school algebra courses. In this session, participants will better understand how to help students connect these concepts and thus increase student mastery.

Tamara R. Pearson
Village Mathematics, Atlanta, Georgia

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

115 Emergent Mathematics: A Recipe for Success

(Pre-K–2) Session

Curriculum in the early childhood classroom is more than a collection of activities. To help children attain the knowledge, skills, and abilities for success in mathematics, we will share a five-step plan that ensures developmentally appropriate practice within the Early Childhood Benchmarks and Common Core State Standards.

Janet Stramel
Fort Hays State University, Hays, Kansas

Diane Plunkett
Fort Hays State University, Hays, Kansas

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

116 Games and Activities for Early Mathematics Based on Whole-Brain Learning

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

Experience critical brain research on perception, language, concepts, procedures, and attitudes via activities that can be integrated into lesson plans for both short- and long-term optimal learning experiences. We will consider how to apply learning science research to early mathematics program definition, pedagogy, curriculum, and assessment.

Daniel J. Fanklin
Six Red Marbles, Charlestown, Massachusetts

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

117 It's Hip to Be Square

(Pre-K–5) Session

Geometry is where it's at. Let's look at the development of students' geometry reasoning and how we can develop it with open-ended tasks—tasks easily adapted to both whole- and small-group environments. We'll also talk about how we can use the information these tasks give us to help students become geometry superstars.

Thomas B. Fox
University of Houston—Clear Lake, Texas

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

118 Math + Parents = Success in School

(Pre-K–5) Session

Recruit parents as your ally in teaching. The Math and Parent Partners (MAPPS) program teaches parents how to support their children's learning of math. Outcomes have included improved motivation and achievement for children as well as improved parent, teacher, and child relationships. We will share standards-based take-home activities from MAPPS.

Andrea K. Knapp
University of Wisconsin—Stevens Point

Racheal Landers
University of Georgia, Athens

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

8:00 A.M.—9:00 A.M.

119 Español + English = Espanglish

(6–8, Research) Session

We will discuss means for identifying when and how using a particular language in the mathematics classroom helps Latino English language learners learn mathematics. We will also report on the development of a new classroom observation tool to measure the quality of academic language.

M. Alejandra Sorto
Texas State University, San Marcos

Aaron T. Wilson
Texas State University, San Marcos

Carlos A. Mejia Colindres
Texas State University, San Marcos

GOLD COAST (EAST TOWER, BRONZE LEVEL)

120 Math versus the Real World: Which Matters More?

(6–8) Session

We can agree that we should use the real world in math class, but why? Should math help students understand the real world, or should the real world help them better understand math? In this debate, Connected Math's Christopher Danielson and Karim Ani of Mathalicious will face off. Does math serve context, or does context serve math? You decide.

Christopher S. Danielson
Connected Mathematics Project, Bloomington, Minnesota

Karim Kai Ani
Mathalicious, Alexandria, Virginia

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

121 Ratios and Proportional Relationships for All

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

As we implement the Common Core, we know we have students with gaps. How can we fill those multiplication and division gaps while building proportional reasoning? Come see how to use the versatile ratio table as we tackle the Ratios and Proportional Relationships standards while truly differentiating instruction to meet all students.

Pamela Weber Harris
Pam Harris Consulting, LLC, Kyle, Texas

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

122 Evidence-Based Interventions in Secondary Mathematics for Students with Disabilities

(6–12) Session

Finding classroom techniques that enable students with disabilities to succeed in mathematics is challenging. This presentation offers research-based instructional strategies in mathematics for secondary school students and aligns the strategies with the specific difficulties each addresses.

Allyson Toronto
University of Maryland, College Park

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

123 Fundamental Theorem of Calculus: Approaches, Problems, Proof, More Problems

(9–12) Session

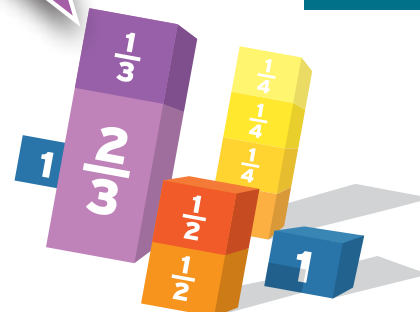
The fundamental theorem of calculus is crucial for a real understanding of calculus. We'll look at a wide variety of approaches, problems, and software to make sense of the theorem. Combining graphical, analytic, and verbal approaches will help to deepen one's understanding of the theorem.

Ruth Dover
Illinois Mathematics and Science Academy, Aurora

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

**NCTM'S 2013
Annual Meeting
is Coming Up!**

**Denver
April 17–20**



8:30 A.M.–9:30 A.M.

ew 124.1
Pearson Hall High School Math and the Common Core

(8–12) Exhibitor Workshop

Learn how this blended print and digital curriculum not only engages students but also infuses Common Core Standards and Mathematical Practices throughout each lesson to ensure that ALL learners acquire the critical knowledge and skills necessary to succeed in college and in their careers.

Pearson
Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

ew 124.2
Meeting the Practice Standards by Using Models from Math in Context®

Exhibitor Workshop

The CCSS Practice Standards ask students to “model with mathematics.” Students are expected to identify quantities and map relationships by using math tools including diagrams, two-way tables, and formulas. Participants will explore models from MiC that can be used to analyze situations and draw conclusions, and they will receive a free Number Tools® workbook.

Britannica Digital Learning
Chicago, Illinois

GRAND SUITE 3 (EAST TOWER, GOLD LEVEL)

8:30 A.M.–10:00 A.M.

125
ABC’s and 123’s: Using Literature to Teach Mathematics

(Pre-K–2) Gallery Workshop

Educators will work together to analyze text, connect mathematical reasoning and problem-solving activities with books, and discover the process students take to comprehend the math–literature connection.

Megan D. Stotz
Lehigh University, Bethlehem, Pennsylvania

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

126
Complements to Ten: Model Multiple Ways and Then Memorize

(Pre-K–2) Gallery Workshop

Participants circulate among tables, at each of which is set up one of five methods of modeling Complements to Ten (*My Ten Fingers Book*, Cuisenaire rods, pegboards, balance, first-quadrant graph). Discussion will include the importance of modeling and then memorizing.

Fran Endicott Armstrong
St. Louis Community College @ Meramec, Missouri

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

127
Measurement Mania: Standards-Based Measurement Activities for the Active Classroom

(Pre-K–2) Gallery Workshop

Attend this workshop to experience hands-on, Standards-based activities that facilitate the development of measurement concepts. Participate in activities that explore measurement attributes such as length, capacity, and area and the tools associated with these attributes. I will provide literature connections.

Latrenda Knighten
Board of Directors, National Council of Teachers of Mathematics; East Baton Rouge Parish School System, Louisiana

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

128
Creative Problem Solving with the Shapes of Mathematics

(3–5) Gallery Workshop

Explain the difference between a shape and a form. Explore the creative process of solving problems in three dimensions, using a specified number of shapes and forms. Explain line, shape, form, space, and their relationship to each other and how they create designs (forms). Explain derivatives of a square. Participants create three separate projects.

Melvin D. Shivers
Architect, Des Moines, Iowa

COLUMBUS HALL IJ (EAST TOWER, GOLD LEVEL)

8:30 A.M.–10:00 A.M.

129 Flight Adventures

(3–5) Gallery Workshop

Flight Adventures is an interdisciplinary project that uses model planes to investigate the science of flight. Students test models and use data such as distance and speed to generate conclusions about airplane design. Discover how science investigations can offer real-life application for measurement, graphing, and data analysis skills.

Becky Wolfe

The Children's Museum of Indianapolis, Indiana

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

130 Exploring Geometry with Quadrilateral Pieces: Beyond Pattern Blocks and Tangrams

(3–8) Gallery Workshop

Explore right, acute, and obtuse angles with Quadrilateral Pieces. Designed to enhance spatial thinking, these innovative materials will help students construct geometric meaning and build key vocabulary through trial and error. Your students will learn to communicate about geometric concepts as they work together to solve problems.

Aldo Bacallao

Henry County Schools, McDonough, Georgia

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

131 A Fresh Look at Functions

(6–12) Gallery Workshop

Functions are one of the most important mathematical tools for students, and how functions are introduced in middle school has a large impact on students' high school success in mathematics. Attendees will work through and discuss problem sets designed to productively introduce functions at the middle level/lower high school.

Alicia K. Davis

Hastings Middle School, Nebraska

Anne D. Schmidt

Culler Middle School, Lincoln, Nebraska

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

132 Dodecahedron Day 2012

(6–12) Gallery Workshop

First celebrated on December 5, 2004, Dodecahedron Day is a day to explore three-dimensional geometry. An analogue of Pi Day for the fall semester, Dodecahedron Day is an opportunity for all students to experience mathematics as a hands-on, creative endeavor. Learn how your classroom can participate on December 5, 2012. Bring scissors.

Vince Matsko

Illinois Mathematics and Science Academy, Aurora

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

133 Superheroes, Murder Mysteries, and Minigolf: Challenging High School Geometry Projects

(6–12) Gallery Workshop

Challenge your high school geometry students with these eight rigorous, engaging projects. Come try the Right Triangle Murder Mystery, Angles Minigolf, and Superhero Transformations. Learn how to integrate engaging projects into your units, and leave with instructions, exemplars, and rubrics for a whole year's worth of projects.

William K. Stafford

EL Haynes Public Charter School, Washington, D.C.

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

134 A Minute to Win It: Motivating Mathematics Connections

(9–12) Gallery Workshop

We will share activities from the game show *Minute to Win It* that can motivate students' interest and involvement as well as promote mathematics discussion and the making of mathematical connections. Be ready for active involvement and engaging discussion as you try out these game show activities and look for ways to incorporate them into your classroom.

Tami S. Martin

Illinois State University, Normal

Roger Day

Glencoe-McGraw Hill School Mathematics Group, Normal, Illinois

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

FRIDAY

8:30 A.M.–10:00 A.M.

135 Importance of Language and Culture in Mathematics Education

(Preservice and In-Service) Gallery Workshop

As educators, we are focused on content and effective ways of delivering instruction. But are we aware of the background of our students? Through jigsawing some readings and participating in a simulation, become more aware of the impact that language and culture have in our mathematics classrooms.

Bob McDonald

TODOS: Mathematics for ALL, Tempe, Arizona

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

9:30 A.M.–10:30 A.M.

136 Cutting to the Core with the Standards for Mathematical Practice

(General Interest) Session

"For all students to become proficient in mathematics, they must internalize the eight Standards for Mathematical Practice as the means to learn, understand, and retain the content standards." Let's examine rich mathematical tasks that encourage the development of the practices in your students and the implications for your instructional practice.

Linda M. Gojak

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

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

137 Preparing Students for Common Core State Assessments: College/Career Readiness

(General Interest) Session

This session offers an update on the evolving state assessment programs and likely impact. Proficient students will explain and apply mathematical concepts, perform procedures, frame and solve complex problems, construct viable arguments to support their reasoning, and analyze complex real-world scenarios by using mathematical models to interpret and solve problems.

Henry S. Kepner

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

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

138 Nickelodeon's Team Umizoomi: Putting the Adventure into Math

(Pre-K–2) Session

Team Umizoomi combines its distinctive math curriculum with high-stakes adventure. "Adventure Math" seizes upon familiar, everyday encounters and uses them as a springboard to build preschoolers' math skills. Preschoolers learn to stretch their minds in new directions as they explore their Mighty Math Powers.

Stacey B. Jaffe

Nickelodeon, New York, New York

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

139 Developing Early Geometric Thinking through GeoGebra

(Pre-K–5) Session

GeoGebra is a free, open-source computer application that allows the user to dynamically manipulate geometric objects. You can use this versatile tool to help foster young students' understanding of shape, location, and transformation. I will highlight completed GeoGebra activities as well as discuss principles of design.

Peter S. Wiles

Eastern Illinois University, Charleston

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

140 Adapting Investigations in Inclusion Classrooms

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

Two fourth-grade coteachers will share how adapting the structure of investigations helped them meet the needs of all students in an integrated coteaching setting. They will focus on using contexts and guided minilessons to differentiate learning and develop oral and written communication. The presentation will include video clips of partner talk and small groups.

Liav Shapiro

P.S. 230 Doris L. Cohen, New York City, New York

Melissa Singer

P.S. 230 Doris L. Cohen, New York City, New York

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

9:30 A.M.–10:30 A.M.

141 Dig into Grade 7 Statistics and Probability Standards with Technology

(6–8) Session

Experience a series of interactive technology activities that use TinkerPlots Dynamic Data software to thoroughly teach the Statistics and Probability standards of the Common Core State Standards. Your students will understand sampling, inference, and probability models like never before.

Josephine Noah

Key Curriculum Press, Emeryville, California

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

142 MathCounts Materials for the Classroom and Beyond

(6–8) Session

A former member of MathCounts’s Question-Writing Committee will highlight the nationwide MathCounts program. He will present rich, unique problems—usable in several venues besides the regular classroom and math club meetings—to show the wide variety of mathematical thought that MathCounts embraces.

Tom J. Price

Norris Public Schools, Firth, Nebraska

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

143 The Reasoning Behind the “Rules”

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

Research shows that many prospective teachers believe that mathematics consists of rules and procedural knowledge that cannot be justified and must simply be memorized. The speakers will challenge that notion and emphasize the mathematical principles and language behind some common “rules” in arithmetic and algebra.

Charlotte Skinner

University of Cincinnati, Ohio

Rachel Frankel

University of Cincinnati, Ohio

Karen Smith

University of Cincinnati, Ohio

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

144 Creativity in Assessment: Focus on the Math

(6–12) Session

How can a teacher be creative in assessing students? How can a teacher encourage student creativity? How can a teacher do either of these while setting high standards for mathematical content? In this session, I share examples and rubrics from my own classroom, as well as research results related to creativity in gifted education.

Hilton C. Russell

University of Illinois Laboratory High School, Urbana

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

145 Teaching to Inspire Mathematical Thinking in Grades 9–12

(9–12) Session

Help your students give powerful meanings to mathematical terms, representations, formulas, and notation, and allow them to make sense of algebraic relationships. We will discuss lessons from research on student thinking and activities that illustrate how to use those lessons in your classroom.

Jen E. Szydlak

University of Wisconsin Oshkosh

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

146 Developing Problem-Solving Skills by Using Model-Eliciting Activities

(Higher Education) Session

This session will present the experience of one instructor using model-eliciting activities to develop problem-solving skills in a 100-level college mathematics class of nontraditional students. I will share student-created solutions, models, and self-reflections.

Patricia A. McNicholas

Robert Morris University Illinois, Chicago

GOLD COAST (EAST TOWER, BRONZE LEVEL)

FRIDAY

10:00 A.M.–11:00 A.M.

ew 146.1
Do Word Problems

(3–9) Exhibitor Workshop

Find out how Hands-On Equations® enables students to represent and solve word problems, including age and consecutive number problems, by visually using game pieces.

Henry Borenson

Borenson and Associates, Inc., Allentown, Pennsylvania

WATER TOWER (WEST TOWER, BRONZE LEVEL)

ew 146.2
Targeted Intervention: How Does Math Navigator Common Core Identify and Address Where Students Struggle with Math?

(2–8) Exhibitor Workshop

Why do some students struggle with basic math concepts? Math Navigator Common Core targets misconceptions that prevent students from mastering the foundational concepts, which in turn results in poor performance. Learn how Math Navigator pinpoints these pitfalls, corrects them, and helps build a solid math foundation.

Pearson

Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

ew 146.3
ClockWise Fractions & Equivalency

(General Interest) Exhibitor Workshop

This hands-on ClockWise session promises participants tons of fun while learning about the many uses of the “Clockulator” manipulative—the tool that allows students to see the connection between fractions and equivalency. Participants will experience how students do mental math to get answers on a clock face! ClockWise is game-based, so be ready to run a fast-paced relay race! This game offers students a mental math tool that will last for a lifetime of calculations.

ClockWise Fractions

Lewisville, Texas

GRAND SUITE (EAST TOWER, GOLD LEVEL)

147
Developing Creativity and Geometric Concepts through Concrete, Hands-On Activities

(Pre-K–2) Gallery Workshop

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

Insook Chung

Saint Mary’s College, Notre Dame, Indiana

Hyo-sook Yang

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

COLUMBUS HALL 1J (EAST TOWER, GOLD LEVEL)

Do Word Problems Scare the Daylights Out of Your Students?

*Friday, November 30
10:00 a.m. - 11:00 a.m.
Water Tower*

Speaker:
Dr. Henry Borenson

Visit our Booth (#626)
**ENTER THE RAFFLE
TO WIN A CLASS SET!**

Hands-On Equations®
Borenson and Associates, Inc.
P.O. Box 3328, Allentown, PA 18106
800.993.6284

FRIDAY

10:30 A.M.–12:00 P.M.

148 Developing Number Sense Apps with Kindergarteners and Their Teachers

(Pre-K–2) Gallery Workshop

We collaborate with two kindergarten classrooms in developing iPad apps tailor-made to address the numeracy learning needs that arise in this particular school. Engage with the apps, view and discuss video of children using the apps, and learn about the potential of our collaborative app development process.

Randy Hengst

Augustana College, Rock Island, Illinois

Mike Egan

Augustana College, Rock Island, Illinois

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

149 Activities That Foster Grouping and Thinking Strategies: A Teacher's Perspective

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

First- and second-grade teachers will show how students develop grouping and thinking strategies through the use of various activities, which include finger patterns, dot cards, single and double ten frames, arithmetic racks, and a candy shop for coordinating units.

Rachael M. Miller

Merrillville Community School Corporation, Indiana

Helaine E. Basile

Merrillville Community School Corporation, Indiana

Hara C. Halkias

Merrillville Community School Corporation, Indiana

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

150 Geometry for All

(3–5) Gallery Workshop

This session will develop shapes, properties, spatial visualization, and their connections across the curriculum. The speakers will show how a solid foundation in early grades gives a big payoff later. They will focus on addressing adaptations for students with diverse needs. Come see how reasoning and sense making can be part of your classroom.

Karen Karp

University of Louisville, Kentucky

Fred Dillon

Strongsville High School, Ohio

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

151 Grading Student Work to Support Teaching and Learning

(3–5) Gallery Workshop

Come learn to create grading rubrics based on curricular goals. Identify your strengths in analyzing student learning and thinking. Learn to identify student needs quickly, use classroom work more effectively, and differentiate instruction. Compare teacher and researcher methods for creating and scoring rubrics for standards-based grading.

Catherine A. Kaduk

Naperville Community Unit School District 203, Illinois

Deena Soffer

University of Illinois at Chicago

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

152 Adventures in Problem Solving: Using Games to Reach All Students

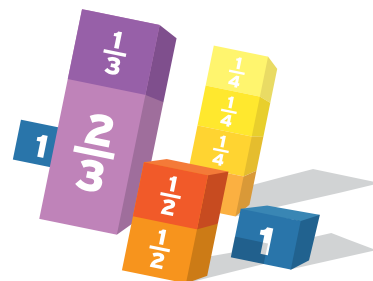
(3–5, Preservice and In-Service) Gallery Workshop

These highly motivational games help all students develop problem-solving abilities, basic skills, and self-esteem. Participants will learn cooperative games that teach computational, spatial, and critical reasoning.

Mary Gilfeather

Pentathlon Institute, Indianapolis, Indiana

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)



Access the Conference App!
Visit www.nctm.org/confapp

FRIDAY

10:30 A.M.–12:00 P.M.

155 Use Appropriate Tools Strategically: CAS, Plausibility, and the Common Core

(9–12) Gallery Workshop

Establishing the plausibility of formulas is an important sense-making activity. We'll look at two kinds of formulas: those derived through problem solving and those that are "just handed to you." We'll use CAS technology to test the formulas and consider the question, Where is the line between appropriate and inappropriate use of technology?

Douglas Harper O'Roark
University of Chicago, Illinois

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

156 Classroom-Level Assessment That Determines and Meets Individual Student Needs

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

Learn how to create and collect material for a classroom-level assessment program that determines individual student needs and how to meet them for any lesson. Discuss how to use the collected data to set up your lesson, determine your instructional mode, determine strategic student groups, and create differentiated questioning and worksheets.

Allan E. Bellman
University of California, Davis

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

157 New and Preservice Teachers Workshop

(Preservice and In-Service) Gallery Workshop

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

Patrick Vennebush
National Council of Teachers of Mathematics, Reston, Virginia

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

11:00 A.M.–12:00 P.M.

158 Looking at CCSSM: It's Still about the (Principles and) Standards

(General Interest) Session

The vision espoused in PSSM is as current today as in 2000. How has your teaching evolved as a result of this document? Let's reexamine the Principles and Process Standards in light of how they should impact effective mathematics instruction today.

Dane R. Camp
Board of Directors, National Council of Teachers of
Mathematics; Iolani School, Hawaii

Linda M. Gojak
President, National Council of Teachers of Mathematics; John
Carroll University, University Heights, Ohio

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

159 Mathematical Modeling in the Curriculum

(General Interest) Session

Mathematical modeling is one of the eight mathematical processes identified in the recent Common Core State Standards for school mathematics. Despite its importance, mathematical modeling is mysterious to many teachers of mathematics. This talk is an introduction, with examples covering all grade levels.

Zalman Usiskin
University of Chicago, Illinois

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

160 Using Mathematics to Keep Play in K

(Pre-K–2) Session

With increasing emphasis on assessment, we often forget how much mathematics children engage with during play. This presentation offers ideas for identifying the counting and number knowledge that emerges in play and gives suggestions for supporting and assessing children's learning through questioning during play.

Anita A. Wager
University of Wisconsin—Madison

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

11:00 A.M.–12:00 P.M.

161 Common Core, NCTM, and GAISE Statistics Recommendations for Elementary School

(Pre-K–5) Session

We will compare the Common Core State Standards, NCTM, and *Guidelines for Assessment and Instruction in Statistics Education Report* recommendations at the elementary school level. We will also offer guidance for implementing statistics in the elementary grades.

Derek F. Webb
Bemidji State University, Minnesota

Anna E. Bargagliotti
University of Memphis, Tennessee

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

162 Using Guided Math to Strengthen Response to Intervention Strategies

(Pre-K–5) Session

This interactive session will help educators apply Guided Math methods as interventions in the RTI process. Partakers will learn how to create and facilitate Guided Math in the classroom. Video clips will illustrate techniques. Teachers will investigate research-based intervention strategies, center ideas, and assessments.

Sharonda Kali
Chicago Public Schools, Illinois

Simcha Baker-Dixon
Chicago Public Schools, Illinois

Natasha Jones
Chicago Public Schools, Illinois

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

163 Number Lines: A Foundational Problem-Solving Tool

(3–5) Session

The Common Core State Standards emphasize the number line because it connects components of our number system. The same number line also serves as a valuable problem-solving tool with the additional benefit of making students' thinking visible. Come join us in this interactive session, which will also feature activities to use in your classroom.

Kit Norris
Consultant, Southborough, Massachusetts

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

164 Singapore's Visual Models Enable Students to Develop Algebraic Thinking

(3–8) Session

This session will focus on visual models used in the highly successful Singapore curriculum that enable students to tackle complex problems and develop deep understanding of topics such as ratio, operations with fractions, and algebraic manipulation. These models help all students make the difficult transition from arithmetic to algebra.

Andy Clark
Portland Public Schools (Retired), Oregon

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

165 Making Sense of Division of Fractions

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

In this inquiry-based session, work on tasks designed to build understanding of fraction division and discuss the reasoning behind various problem-solving strategies. We will share vignettes of implementation of these tasks in a course for future teachers. Together we will analyze how others make sense of fraction division.

Nesrin Cengiz
University of Michigan–Dearborn

Margaret Rathouz
University of Michigan–Dearborn

GOLD COAST (EAST TOWER, BRONZE LEVEL)

166 An iPad-Based Dynamic and Visual Introduction to Function Concepts

(6–12) Session

Students experience functions through a geometric approach made vivid with the iPad. They drag variables, observe function behavior, learn function notation, and explore domain and range. They identify function families, compose functions, create inverse functions, and more. Receive classroom-ready activities. (Sketchpad Explorer is a free app.)

Scott Steketee
Key Curriculum Press Technologies, Emeryville, California

Kevin Thompson
University High School; Illinois State University, Normal

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

FRIDAY

11:00 A.M.–12:00 P.M.

167 Transforming Geometry through Geometric Transformations

(6–12) Session

Learn how geometric transformations—foundational to the Common Core State Standards—can be developed across grades 6–12. Doing so would increase the level of students' reasoning and sense making in geometry and build a firm foundation for more formal mathematical arguments, in alignment with the Standards for Mathematical Practice.

W. Gary Martin
Auburn University, Alabama

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

168 The Merit Model: How It Works and How We Know

(9–12, Higher Education) Session

We will present results from a five-year National Science Foundation-funded study to demonstrate how the Merit Program has improved the recruitment and retention of science, technology, engineering, and mathematics majors. We will furnish a description of the Merit Program as well as sample materials.

Jennifer McNeilly
University of Illinois at Urbana–Champaign

Gretchen Adams
University of Illinois at Urbana–Champaign

Tracey Hickox
University of Illinois at Urbana–Champaign

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

11:30 A.M.–12:30 P.M.

ew 168.1 Prepare Your Students for Algebra Success—Introducing onRamp to Algebra

(7–9) Exhibitor Workshop

Despite a variety of approaches to the problem, the algebra fail rate has remained stubbornly high in many of our schools. Learn about Pearson's new intervention program, onRamp to Algebra, which uses a research-based method of explicit instruction, peer-assisted learning, and independent practice with scaffolded supports. Designed to ensure that each student remains an active, engaged participant throughout the entire 45-minute lesson, the program simultaneously builds foundational skills and conceptual understanding in struggling students, one year prior to their algebra 1 class.

Pearson
Upper Saddle River, New Jersey

COMISKEY (WEST TOWER, BRONZE LEVEL)

ew 168.2 ClockWise Fractions & Equivalency (General Interest) Exhibitor Workshop

This hands-on ClockWise session promises participants tons of fun while learning about the many uses of the "Clockulator" manipulative—the tool that allows students to see the connection between fractions and equivalency. Participants will experience how students do mental math to get answers on a clock face! ClockWise is game-based, so be ready to run a fast-paced relay race! This game offers students a mental math tool that will last for a lifetime of calculations.

ClockWise Fractions
Lewisville, Texas

GRAND SUITE (EAST TOWER, GOLD LEVEL)



Join us at the 2013
Regional Conferences:
Baltimore • October 16–18
Las Vegas • October 23–25
Louisville • November 6–8

12:30 P.M.–1:30 P.M.

169 PISA: What Can Students Do with the Mathematics They Learn?

(General Interest) Session

In PISA, fifteen-year-old students solve problems that one might encounter outside school. The mathematics tasks used, and the results obtained, in this international assessment are relevant to teachers in grades 6–11, and they are a resource for teacher educators and professional developers. Examples for all these groups will be available.

Edward Silver
University of Michigan–Dearborn

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

170 Will the Common Core State Standards Improve Student Achievement?

(General Interest) Session

The CCSSM impact on student achievement will depend more on the implementation of the Standards for Mathematical Practice (SMP) than the content standards. We will discuss the SMP, their connection to NCTM Process Standards, and other high-leverage instructional strategies to improve student achievement and close the achievement gap.

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

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

171 Discovering Data: Collecting, Recording, and Interpreting Data in Pre-K–Grade 2

(Pre-K–2) Session

Come hear about creative ways to teach tallying, data collection, surveying, graphing, probability, and estimation in an early childhood classroom. Learn how to take your students through the complete process of generating a survey question, collecting data, recording data, and interpreting the results in ways that are meaningful and fun.

Joy L. Souza
Blackstone Valley Prep, A Rhode Island Mayoral Academy,
Cumberland, Rhode Island

Katlyn LaCroix
Blackstone Valley Prep, A Rhode Island Mayoral Academy,
Cumberland, Rhode Island

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

172 Use of Numeric and Nonnumeric Symbols in Early Addition

(Pre-K–2) Session

This presentation connects research on young children's use of numerals in early addition to classroom practice. Children who could identify and represent numerals had difficulty using them in additive situations. A game structure, in which addends were sometimes represented by dots and sometimes by numerals, appeared to facilitate this process.

Sally Moomaw
University of Cincinnati, Ohio

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

173 Comparing Student Achievement in Everyday Math and Saxon Math

(3–5, Research) Session

This study compared elementary school students' math scores from schools using Saxon Math and Everyday Math. Statistical analyses, controlling for several demographic and school variables, show how choice of math curriculum affected students' state test scores.

Clayton L. Roan
Eastern Illinois University, Charleston

GOLD COAST (EAST TOWER, BRONZE LEVEL)

174 Math Blogs: Creating a Virtual Community of Problem Solvers

(3–8) Session

Learn how to create and maintain a math blog to facilitate students' math knowledge, problem-solving skills, communication skills, and creativity. You will also learn how to integrate the Common Core Process Standards into a math blog. While using the blog, teachers can also teach about Internet safety and netiquette guidelines.

Amy Jarrett-Clancy
Newberry Academy, Chicago, Illinois

Jennifer Misong Magiera
Chicago Public Schools, Illinois

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

FRIDAY

12:30 P.M.–1:30 P.M.

175 Turn Your Teaching into an *MTMS* Article

(6–8, Higher Education) Session

Do you have lessons that are “gems”? Do you have great stories of students’ learning or surprises about what you have learned from students? Do you have a great idea for differentiating your instruction? Come share your thoughts and get some ideas for how to turn your experiences into articles for *Mathematics Teaching in the Middle School*.

Judith S. Zawojewski
Illinois Institute of Technology, Chicago

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

176 Developing Students’ Algebraic Thinking and Reasoning

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

By engaging in specific algebraic tasks and examining classroom discourse, we will look at a promising organizing theme for the algebra curriculum that highlights the big ideas in algebra and promotes deep understanding and reasoning as reflected in the Mathematical Practices of the Common Core State Standards.

Elizabeth Phillips
Michigan State University, East Lansing

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

177 An Overview of AdvanceKentucky

(9–12) Session

AdvanceKentucky is an AP Incentive Program affiliated with the National Math and Science Initiative. Participants will become familiar with the AdvanceKentucky model and learn about the program’s success in sixty-four Kentucky public schools.

Monique Morton
AdvanceKentucky — Kentucky, Science, and Technology Corporation, Lexington

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

178 3–D Modeling with Google SketchUp

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

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

Mark A. Augustyn
Muncie Community Schools, Indiana

Kathryn G. Shafer
Ball State University, Muncie, Indiana

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

179 How Do Prospective Teachers Interpret Student Errors?

(Preservice and In-Service) Session

We will share data from a project that used clinical interview videos to help prospective teachers (PTs) improve their understanding of student thinking. The PTs viewed videos, reflected on the student thinking they observed, and subsequently conducted their own clinical interviews. We will also discuss when and how PTs responded to student errors.

Cecilia C. Arias
Rutgers University, Piscataway, New Jersey

Roberta Schorr
Rutgers University, Newark, New Jersey

Lisa B. Warner
William Paterson University, Wayne, New Jersey

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

FRIDAY



Shop and Save **25 percent**
at the NCTM Onsite Bookstore!

12:30 P.M.–2:00 P.M.

180 Putting the Thinking Back into Problem Solving

(Pre-K–2) Gallery Workshop

Asking teachers to increase attention given to problem solving does not ensure a focus on fostering student understanding. We engage teachers in analyzing types of problems (as identified in the grades K–2 Common Core State Standards) and then address implications on classroom practice, introducing practical ways to engage students in thinking critically when solving problems.

Michelle Reeb Homp
University of Nebraska—Lincoln

Susie Katt
Lincoln Public Schools, Nebraska

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

182 Concept-Driven Dynamic Multiplication Activities for the iPad

(3–5) Gallery Workshop

Banish mindless flash card drill with activities that introduce multiplication from a conceptual perspective. Try these engaging materials from the Dynamic Number Project, using Sketchpad Explorer for the iPad or Sketchpad on your laptop. We will also present excerpts from student interviews. iPads will be provided.

Daniel Scher
KCP Technologies, Emeryville, California

Scott Steketee
Key Curriculum Press Technologies, Emeryville, California

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

183 Developing Reasoning and Sense Making with NCTM's Free Online Resources

(3–8) Gallery Workshop

Capitalize on student interest in technology with NCTM's e-Examples, apps from Illuminations, and Calculation Nation games. Target both Content Standards and Standards for Mathematical Practice from the Common Core State Standards Initiative. Walk away with ready-to-use, engaging ideas to incorporate online interactives for teaching and learning.

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

COLUMBUS HALL KL (EAST TOWER, GOLD LEVEL)

184 Literacy in Geometry

(3–8) Gallery Workshop

How can we connect literacy and geometry in elementary school classrooms? Using books in a classroom can connect real-world examples of geometric concepts being studied. Through a variety of books and activities, we will explore various shapes and real-world contexts to help children better understand geometry in the world around them.

Kari M. Everett
Western Kentucky University, Bowling Green

Joy Curtis
Western Kentucky University, Bowling Green

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

185 Tape Diagrams and Double Number Line Diagrams: Visual Reasoning Tools

(3–8) Gallery Workshop

Tape diagrams and double number line diagrams are tools explicitly mentioned in the Common Core State Standards to help students' ratio and rate reasoning. Although these tools are common in some Asian curriculum materials, they are not familiar to many U.S. teachers. Join us to learn how you might use these tools to support students' reasoning processes.

Tad Watanabe
Kennesaw State University, Georgia

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

186 Fold Some Geometry

(6–8) Gallery Workshop

Participants will use folding activities with paper bags, circles, and origami paper to investigate geometric concepts and discuss geometric vocabulary. We will supply handouts and materials.

Tammy Voepel
Southern Illinois University, Edwardsville

Kevin Voepel
Ferguson-Florissant School District, Missouri

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

FRIDAY

12:30 P.M.–2:00 P.M.

187 Becoming Fluent with the Unit Circle

(9–12) Gallery Workshop

Come see how a paper plate can help your students understand the unit circle. We will do this and other activities to help your students make connections about various topics in trigonometry.

Jerrine A. Roderique

Waubonsie Valley High School, Aurora, Illinois

Susan Pickett

Waubonsie Valley High School, Aurora, Illinois

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

188 Beyond Pictures of Spinners and Dice: Probability through Simulations

(9–12) Gallery Workshop

Beginning with physical simulations using tools such as dice and coins, participants will explore probability as a relative frequency. We will then make a concrete transition to technology (graphing calculators and software) to generate many trials quickly. We will explore conditional probability, independence, and the law of large numbers.

Corey Andreasen

Sheboygan Area School District, Sheboygan, Wisconsin

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

189 Moving a Wall: An Unbelievable Lesson about Measuring Unimaginable Distances

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

Experience an incredible lesson usable in any geometry or trigonometry course. Using basic properties of triangles and circles and a few simple tools, students calculate how much a wall moves when pushed. The lesson connects mathematics to nanotechnology and offers a real-world application of math concepts that students won't forget.

Matthew C. Hopkins

Champaign Central High School, Illinois

Joseph Muskin

University of Illinois at Urbana-Champaign

Adam Poetzel

University of Illinois at Urbana-Champaign

COLUMBUS HALL IJ (EAST TOWER, GOLD LEVEL)

190 Productive Struggle to Grow Stronger Mathematics Students in Grades K–12

(Preservice and In-Service) Gallery Workshop

Making sense of problems and persevering in solving them is difficult for students not used to thinking and teachers not used to allowing students time for productive struggle. We will share how Kentucky regional teacher networks use high-level tasks in formative assessment lessons to help teachers create an environment for student thinking.

Debbie W. Waggoner

Kentucky Department of Education, Frankfort

Teresa Emmert

Kentucky Department of Education, Frankfort

Jenny C. Ray

Kentucky Department of Education, Frankfort

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

190.1 Numeracy through Play: When Mathematical Learning Comes Naturally

(Pre-K–2) Gallery Workshop

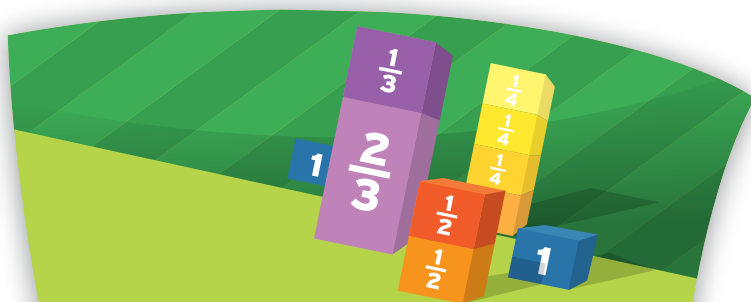
With the right materials, students can learn how to count by playing with specially designed puzzles and cards. This hands-on session is filled with make-and-take ideas you can implement right away. Developed based on brain research on how children learn to count, these materials will enhance visual representation, which is necessary for numeracy.

Christina Bacallao

Georgia Institute of Technology, Atlanta

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

FRIDAY



Membership Questions?
We've got answers! Visit the
NCTM Member Showcase onsite.

1:00 P.M.–2:00 P.M.

ew 190.2
Utilizing Technology to Ensure Access for ALL Students

(General Interest) Exhibitor Workshop

In this session focusing on Creating Access (Big Idea) for all students (special and regular education and gifted/talented), participants will explore how to customize software curriculum for each individual student, promoting differentiation. Participants will discuss the research behind the effectiveness of instructional technology (or a blended instructional model), identify ways to implement new practices that differentiate instruction for all students, and share strategies they have found to be successful in their schools and classrooms.

Afreeka Miller

Carnegie Learning, Inc., Pittsburgh, Pennsylvania

COMISKEY (WEST TOWER, BRONZE LEVEL)

ew 190.3
Slaying Math Dragons with Notebook Foldables®

(General Interest) Exhibitor Workshop

Slay math dragons, organize student work, and add dimensionality to interactive math notebooks with 3-D graphic organizers known as Foldables®. Transform notebooks into individualized brain-smart tools that will revolutionize the way you teach and the way your students learn. Leave with a mini-composition book ready to use immediately.

Dinah-Might Adventures

San Antonio, Texas

WATER TOWER (WEST TOWER, BRONZE LEVEL)

2:00 P.M.–3:00 P.M.

191
Comparing Indian and U.S. Math Education in Urban Schools

(General Interest, Research) Session

Motivated by adaptation, accommodation, and modification, this study explores salient features of grades K–8 mathematics curricula of urban schools. Learn about sociocultural dynamics in India that might enable culturally and linguistically different Indian students to make sense of mathematics taught in New York City schools and perform better.

Rupam Saran

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

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

192
Mathematical Reasoning in an Unreasonable Environment

(General Interest) Session

Reasoning is a cornerstone of mathematics at all levels. *Principles and Standards for School Mathematics* and the Common Core State Standards recognize this. Testing challenges this tenet. Come and explore problems that can be solved by reasoning, can be used in the classroom, but probably will not appear on tests.

Johnny W. Lott

Past President, National Council of Teachers of Mathematics; University of Montana (Retired), Oxford

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

193
Building Young Mathematicians: Applying the Standards Pre-K–Grade 2

(Pre-K–2) Session

The national standards movement requires early childhood practitioners to develop a new mindset for their role in advancing young children's mathematical learning and school readiness. Examine the relationship of the Common Core State Standards to the early childhood domains of learning, with a special emphasis on how visual learning strategies can be useful in addressing the Common Core goals.

Stuart J. Murphy

Author, Boston, Massachusetts

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

194
Opportunizing Mathematics Learning in the Early-Years Learning Environment

(Pre-K–2) Session

Early-years learning environments can be a rich source of contextual and authentic math learning opportunities—we just have to know what we are looking for. What are the cornerstones of math development for early learners, and how can we effectively develop them in all learners? Come and explore strategies for achieving this goal at your learning place.

Lisa-Jane O'Connor

Primary Mathematics Association, Adelaide, Australia

Rod Nancarrow

Department of Education and Child Development, Adelaide, Australia

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

FRIDAY

2:00 P.M.–3:00 P.M.

195 Launch a STEM Program in Your Elementary School

(Pre-K–5) Session

Stretch the young minds of students by expanding interest in science, technology, engineering, and mathematics (STEM). Leave with ideas on how to begin a successful STEM program, developmentally appropriate for elementary school, that integrates spatial reasoning, manipulatives, and several team-building miniprojects.

Sheri Ann Le
Hockaday School, Dallas, Texas

Leslie Gardiner
Hockaday School, Dallas, Texas

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

196 The Misunderstood Equals Sign

(Pre-K–5) Session

Research shows that students' misunderstandings about the equals sign's meaning and proper use lead to confusion as students develop number sense and algebra skills. Take a hands-on look at children's work and understanding of the equals sign, and explore some ideas on how to shape their development of equals-sign concepts.

Tabetha R. Finchum
Flowing Wells School District, Tucson, Arizona

Sarah Clarkson
Tucson Unified School District, Arizona

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

197 Logic Games: Thinking Outside the Box

(6–8) Session

Students are motivated by games and enjoy figuring things out. Are you short on ideas to develop your diversely talented students' logical reasoning skills? In this session, you will solve puzzles and take away new activities and new ideas for using games to teach logical thinking.

Diana Cheng
Towson University, Maryland

Johanna Bunn
Boston University, Massachusetts

Robin Rostorfer
Middle Tennessee State University, Murfreesboro, Tennessee

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

198 Monitoring Understanding: Literacy as a Means to Mathematical Ends

(6–12) Session

Build students' capacity to understand and persist in solving unfamiliar problems. Help students access their prior knowledge and monitor their own thinking. Improve your teaching through cross-disciplinary collaboration. Participants will get practical ideas for incorporating common literacy strategies into their daily practice.

Karen Ray
Edison Middle School, Champaign, Illinois

Sarah Durst
Edison Middle School, Champaign, Illinois

Susan Gregson
University of Cincinnati, Ohio

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

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2:00 P.M.–3:00 P.M.

199 Triangle Treachery

(6–12) Session

Contained in a simple note card is a triangle with varying lengths and constant height. Investigating the area and perimeter of this dynamic triangle leads to some crucial mathematical ideas and some surprising functions and models. This problem-solving task connects algebra, geometry, and measurement.

Bob Mann

Western Illinois University, Macomb, Illinois

Joseph Illichman

Western Illinois University, Macomb, Illinois

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

200 The Ten Commandments of Math Coaching

(Preservice and In-Service) Session

Math coaching is a challenging endeavor. Be prepared to meet these challenges head on by using the ten commandments of math coaching. Learn the ten concepts a math coach should remember when leading and supporting teachers in implementing best practices.

Melissa Kollenberg

Paulding County School District, Dallas, Georgia

DeAnna Byers

Paulding County School District, Dallas, Georgia

GOLD COAST (EAST TOWER, BRONZE LEVEL)

2:30 P.M.–4:00 P.M.

201 Connecting Dots Across the Curriculum by Using Common Core Standards

(Pre-K–2) Gallery Workshop

This interactive workshop will demonstrate how to create project-based units using the Common Core State Standards across the curriculum in order to increase students' number sense. Teachers will have an opportunity to create differentiated center ideas and authentic assessments to address the needs of their students.

Natasha L. Gaines

Chicago Public School, Illinois

Sharonda Kali

Chicago Public School, Illinois

Simcha Baker- Dixon

Parker Elementary School, Chicago, Illinois

GRAND BALLROOM B (EAST TOWER, GOLD LEVEL)

202

Using Ten Frames Appropriately to Develop Number Concepts

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

Ten frames are a powerful way to develop number and operational sense. However, if ten frames aren't used optimally, teachers may not reap the full benefits. Learn optimal ways to use ten frames to develop place-value understanding, fact mastery, noncounting strategies for addition and subtraction, and more.

Angela Giglio Andrews

Early Childhood Math Consultant, National Louis University (Retired), Bolingbrook, Illinois

Diane Cushing Liesen

Naperville, Illinois

CRYSTAL BALLROOM B (WEST TOWER, GREEN LEVEL)

203

Cutting to the Core: Tangrams and Pentominoes/Geometry and Fractions

(3–5) Gallery Workshop

Participate in hands-on problem-solving activities to deepen understanding of 2-D and 3-D shapes, transformations, fractions, area, and perimeter while increasing students' spatial visualization abilities. Experience Common Core State Standards and Mathematical Practices in action. Leave with lesson plans, puzzles, and materials to use and share.

Annemarie Mockler Newhouse

South Euclid Lyndhurst City Schools, Greenview Upper Elementary, Ohio

REGENCY BALLROOM B (WEST TOWER, GOLD LEVEL)

204

Teaching and Assessing Students' Ability to Create and Evaluate Representations

(3–8) Gallery Workshop

Participants will experience a model for teaching and assessing students' creations and evaluations of representations. Teachers will have the opportunity to create their own representations for a problem and discuss criteria for assessing the strength of students' ability to create, translate between, and evaluate individual representations.

Jeff Heyck-Williams

Two Rivers Public Charter School, Washington, D.C.

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

FRIDAY

2:30 P.M.—4:00 P.M.

204.1 Calculation Nation: Game On!

(3–8) Gallery Workshop

Engage students in math in a familiar environment to most: online games. Calculation Nation (<http://calculationnation.nctm.org>) is a site of free online games from NCTM. Come to this session prepared to challenge yourself, learn math, and have fun. Topics may include patterns, fractions, or variables. Attendees will decide which games to play.

Patrick Vennebush
National Council of Teachers of Mathematics, Reston, Virginia

REGENCY BALLROOM C (WEST TOWER, GOLD LEVEL)

205 Using Nonroutine Problems to Build Reasoning and Sense Making

(3–8) Gallery Workshop

We engage attendees in working through several nonroutine problems for upper elementary/middle school students, and then we discuss how you can use these types of problems to build students' reasoning and sense-making skills. Attendees will leave with multiple sets of problems to use, as well as ideas for how to enact these problems with students.

Paula M. Millerd
Omaha Public Schools, Nebraska

Edie Ronhovde
Fremont Public Schools, Nebraska

CRYSTAL BALLROOM C (WEST TOWER, GREEN LEVEL)

206 Proportional Reasoning: Transitioning from Additive to Multiplicative Thinking

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

Engage in a variety of activities that will facilitate the development of proportional reasoning in the middle school setting. The real-world activities will also promote both the NCTM Process Standards and the Standards for Mathematical Practice as defined in the Common Core State Standards for Mathematics.

Rebecca R. Robichaux
Mississippi State University

Paulette R. Rodrigue
Nicholls State University, Thibodaux, Louisiana

GRAND BALLROOM C SOUTH (EAST TOWER, GOLD LEVEL)

207 Using Function Tables to Enhance Proportional Reasoning

(6–12) Gallery Workshop

Many students lack depth with regard to proportional reasoning. They are well versed in the mechanics of cross multiplication but lack understanding of what a proportion really means. Participants will create adapted function tables that will help students gain a deeper understanding of the relationships shown in a proportion.

John A. Anderson
Houghton Mifflin Harcourt Publishers, Boston, Massachusetts

COLUMBUS HALL IJ (EAST TOWER, GOLD LEVEL)

208 Facebook, CSI, and Math?

(9–12) Gallery Workshop

What do Facebook, CSI, and math have in common? Investigate mock murder scenes, identify key persons in a network, and learn what the IRS looks for in tax returns by using class-ready materials and CSI techniques based on high school-level math. Join us as we help save the world.

Chuck E. Ememaker
University of Cincinnati, Ohio

GRAND BALLROOM A (EAST TOWER, GOLD LEVEL)

3:30 P.M.—4:30 P.M.

209 Graphing and Investigating Parametric Equations

(9–12) Gallery Workshop

Create a variety of parametrically defined curves by using the graphs of two functions and then gain insight into parametrics from the behavior of those curves. Follow-up discussions will introduce and use the graphing calculator to investigate further parametric applications, including conic sections.

Leah Evans
Loveland City Schools, Ohio

COLUMBUS HALL EF (EAST TOWER, GOLD LEVEL)

3:30 P.M.—4:30 P.M.

211 Practice-Based Professional Development for Practicing Elementary School Mathematics Teachers

(Preservice and In-Service) Gallery Workshop

Presenters share a distinctive form of professional development materials for elementary school teachers that integrates attention to mathematics, student thinking, teaching practices, and ways of learning from practice. Participants explore these materials and discuss the benefits and challenges of this form of practice-based professional development.

Timothy A. Boerst
University of Michigan, Ann Arbor

Susanna Owens
University of Michigan, Ann Arbor

Meghan Shaughnessy
University of Michigan, Ann Arbor

GRAND BALLROOM D NORTH (EAST TOWER, GOLD LEVEL)

212 Formative Assessment in a Summative Assessment CCSS World

(General Interest) Session

This motivational and interactive session will provide a formative assessment research-affirmed feedback model for raising student achievement, creating fidelity to student grades, and understanding how to use assessment as a student motivational tool. Bring your cell phones so you can vote.

Timothy Kanold
Loyola University, Chicago, Illinois

GRAND BALLROOM F (EAST TOWER, GOLD LEVEL)

213 The Great Green Globes Contest, and More

(General Interest) Session

Come and learn the strategies to become the champion slayer of all the “Green Globes” in your own “Annual Great Green Globes” Contest. Find out how to engage your students in graphing competitions and in creating designs of beautiful mathematical artwork that will inspire them to truly master the art and science of graphing and transformations.

Neil D. Cooperman
Millburn School District, New Jersey

GRAND BALLROOM D SOUTH (EAST TOWER, GOLD LEVEL)

214 Finger-Tastic: Nontraditional Manipulatives for Number Sense and Fine Motor Development

(Pre-K–2) Session

Discover ways to use nontraditional manipulatives, such as LEGO bricks, to engage learners while building number sense, reinforcing computation, and strengthening fine motor development.

Ann Olivia Hlabangana-Clay
Tower Hill School, Wilmington, Delaware

CRYSTAL BALLROOM A (WEST TOWER, GREEN LEVEL)

215 Fear Not the Fraction

(Pre-K–5) Session

Elementary school students need experiences with multiple models of fractions to gain both a deep understanding of the concept and proficiency with skills, such as finding equivalence and operating. This session will explore which model is most appropriate for each purpose and will relate and classify all fraction types.

James L. Burnett
Consultant, Brisbane, Australia

REGENCY BALLROOM D (WEST TOWER, GOLD LEVEL)

216 Methods for Teaching Subtraction from Around the World

(Pre-K–5) Session

Difficulties with multidigit subtraction are pervasive. The U.S. subtraction algorithm is different from those taught in France, China, and elsewhere. Teaching an alternative method can address recurrent errors. Struggling students may more easily learn a different subtraction algorithm; seeing how these work can challenge your most able students.

Frances L. Stern
Mathematics Education Consultant, New York, New York

COLUMBUS HALL GH (EAST TOWER, GOLD LEVEL)

FRIDAY

3:30 P.M.—4:30 P.M.

217 Using Children’s Literature to Foster Motivation in Mathematics

(3–8) Session

Children’s literature is an excellent way to motivate students about mathematics. We will share three lessons that we have used with both preservice teachers and elementary school students. Leave with an annotated bibliography of our favorite mathematical children’s books, lesson and project ideas, and motivation to implement your own lesson.

Nicole M. Enzinger

Illinois State University, Bloomington, Illinois

Rachel L. Williams

Olivet Nazarene University, Bourbonnais, Illinois

COLUMBUS HALL CD (EAST TOWER, GOLD LEVEL)

218 What Are Students’ Angles on Angles?

(6–8) Session

Understanding the definition of *angle* is one of the most fundamental parts of geometry. Why do students have difficulty constructing coherent understanding of angle and related concepts? This presentation will share origins of students’ struggles and offer strategies to overcome students’ challenges.

Melike Yigit

Purdue University, West Lafayette, Indiana

Hyunyi Jung

Purdue University, West Lafayette, Indiana

COLUMBUS HALL AB (EAST TOWER, GOLD LEVEL)

219 Mathematical Curves in the Real World: Fun(ctional) Learning

(6–12) Session

I will present conic sections, spirals, catenaries, cycloids, fractals, and more, in many different ways (humorous and real). We will see hands-on activities, computer/calculator applications, and free online videos. I will focus on connections within mathematics and science. (Come learn why there really aren’t any parabolic trajectories on Earth.)

Scott D. Oliver

Adlai E. Stevenson High School, Lincolnshire, Illinois

GRAND BALLROOM E (EAST TOWER, GOLD LEVEL)

220 Math Models at the Amusement Park

(6–12) Session

Math modeling is emerging in importance as we grow into the Common Core. Participants will engage in Common Core–aligned math modeling activities with an amusement park context. Topics include height versus time, loading efficiency, and physical attributes that simultaneously connect NCTM Content and Process Standards—all with a bit of technology.

Mike Long

Shippensburg University, Pennsylvania

Brock Foor

Shippensburg University, Pennsylvania

Brett Foor

Shippensburg University, Pennsylvania

REGENCY BALLROOM A (WEST TOWER, GOLD LEVEL)

221 What Were They Thinking? Assessing ELL Students’ Mathematical Knowledge

(6–12) Session

Perceived deficits in ELL students’ mathematics are not always as they appear. We will share a case of an ELL student’s work pertaining to slope and congruence, along with possible explanations for such answers. A discussion on effective classroom teaching and assessment practices for ELL students aligned with the Equity Principle will follow.

Gorjana Popovic

Illinois Institute of Technology, Chicago, Illinois

Stephanie Whitney

DePaul University, Chicago, Illinois

GRAND BALLROOM C NORTH (EAST TOWER, GOLD LEVEL)

222 Combating the Low Basic Skills Examination Pass Rate

(Higher Education) Session

Are the education majors at your university having difficulty passing the Basic Skills exam? You’re not alone. See one university’s attempt to aid students in passing the Basic Skills exam through workshops, with concentration on the implementation and instruction of the mathematics portion.

Brittany Gillespie

Millikin University, Decatur, Illinois

GOLD COAST (EAST TOWER, BRONZE LEVEL)



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Linda M. Gojak

Linda M. Gojak
President, NCTM

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A list of Partner Affiliates in the conference's region and the Affiliates-at-Large appears below. To join one of these groups, e-mail the Affiliate contact for membership information. NCTM has more than 230 Affiliates throughout the United States and Canada. For a list of all organizations affiliated with NCTM and information on how to join, please see the Affiliate Directory on the NCTM website.

About the Host Organization



The Illinois Council of Teachers of Mathematics (ICTM) is a community of 2,000 Pre-K through Post-graduate educators promoting equitable, high quality mathematics teaching and learning through leadership, collaboration, advocacy and professional development. As a respected leader in mathematics education at the school, district, state, and national levels, ICTM serves as a collaborative partner to promote the achievement of every student. The purposes of the Council shall be to encourage active interest in all areas of mathematics and mathematics education, to enhance the teaching and learning of mathematics and the role of mathematics in other disciplines, to promote research in the teaching and learning of mathematics, and to provide opportunities for the exchange of views regarding the teaching and learning of mathematics.

In the fall, the Illinois Council of Teachers of Mathematics holds a two-day Annual Meeting preceded by a Special Topic Pre-Conference the day before the annual meeting. The Council also sponsors an annual Math Contest that includes regional competitions and state finals. In order to promote mathematics teaching as a career, the Council awards scholarships to outstanding college students. ICTM Awards are given to teachers to honor outstanding contributions to mathematics education in Illinois.

Affiliate Information

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North American Study Group on Ethnomathematics

Blidi Stemn, catbss@hofstra.edu

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Ruth Harbin Miles, smilesalot4u2@yahoo.com

Society of Elementary Presidential Awardees

Martha Short, mshort@ltd.net

TODOS: Mathematics for ALL

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Dorothy Buerk, buerk@ithaca.edu

The graphic is a vertical banner with a yellow background. At the top, it says "Want to Receive \$25 or \$50 in NCTM Bucks?" in purple and green text. Below this, there are three horizontal panels with different illustrations: a city skyline with a longhorn, a state capitol building, and a fairground with a Ferris wheel. The text "Join or Renew for Multiple Years" is written in green cursive. Below that, "Stop by the NCTM Member Showcase" is written in purple. At the bottom left is the NCTM logo, and at the bottom right is the text "NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS".

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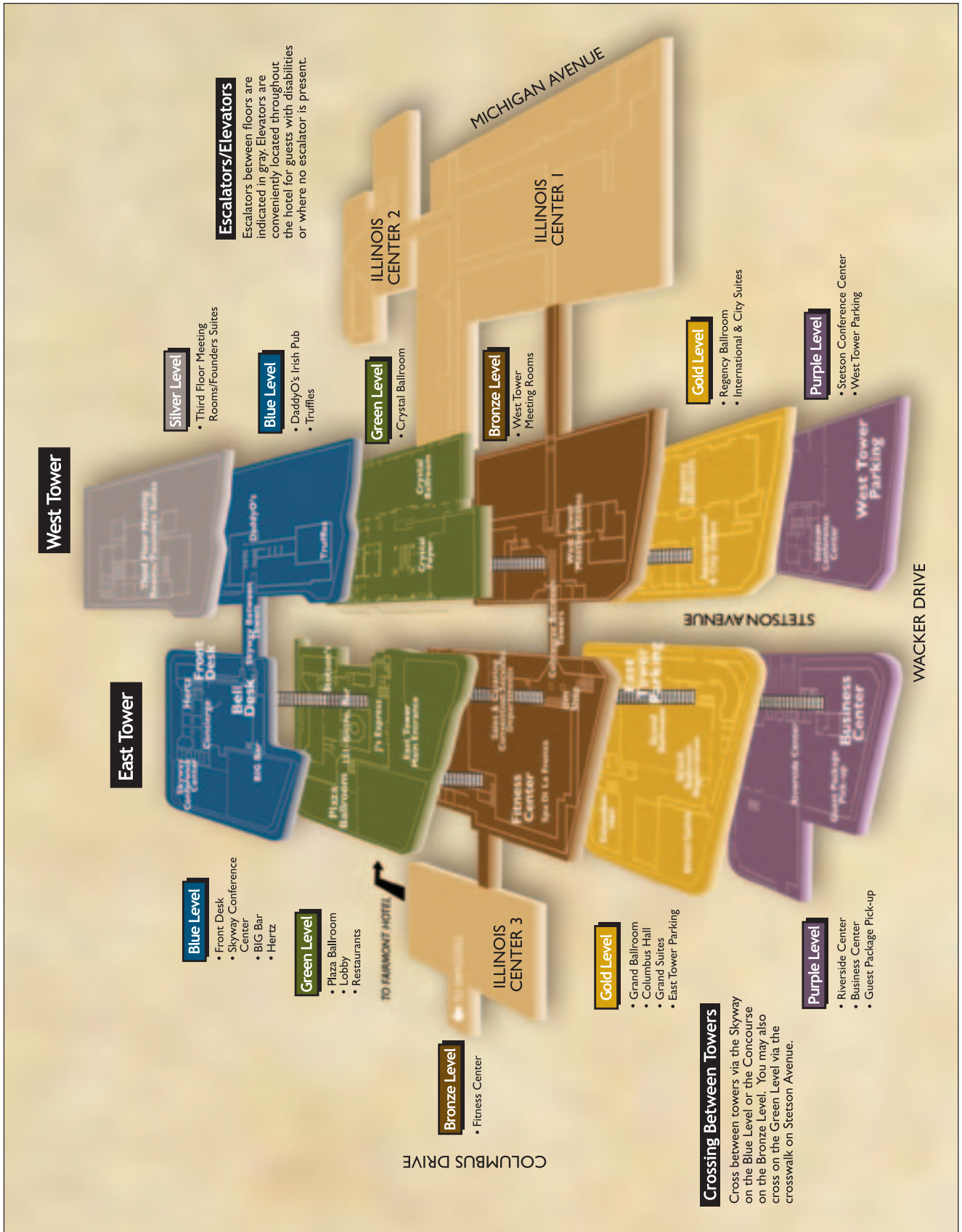
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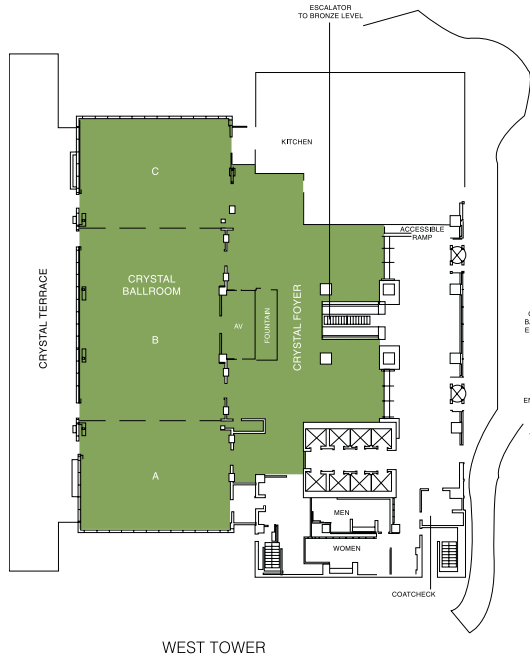
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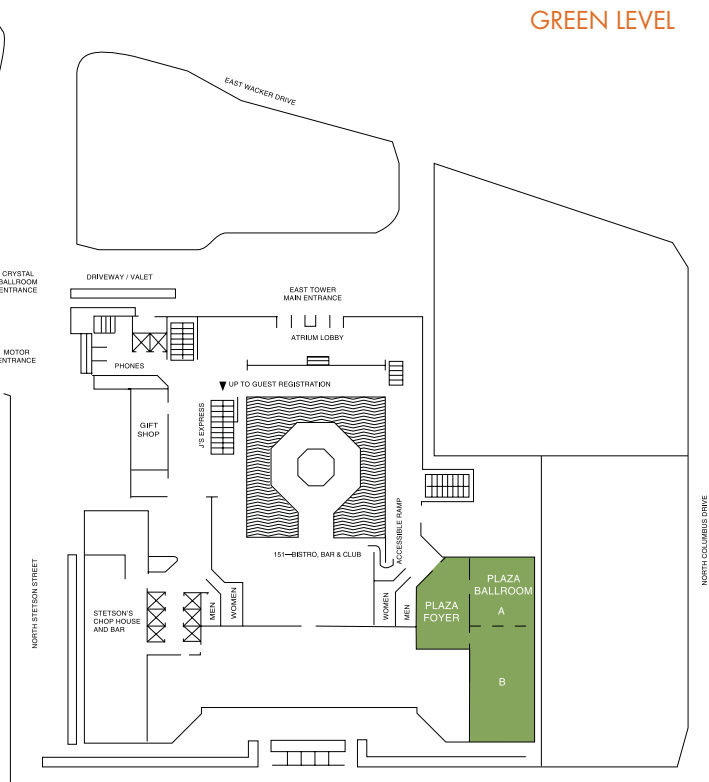
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Floor Plans

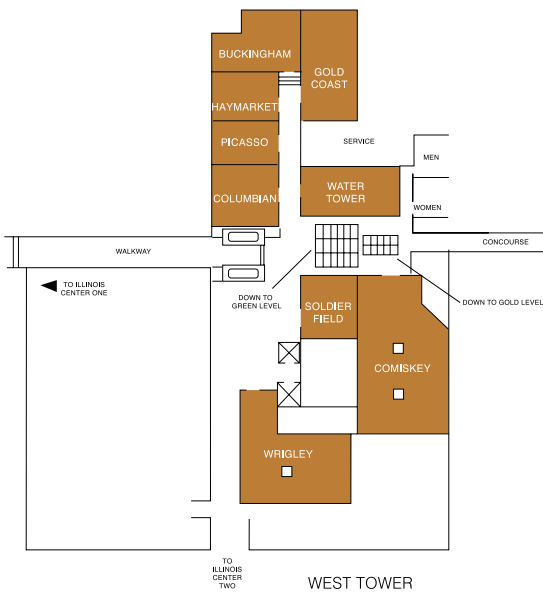


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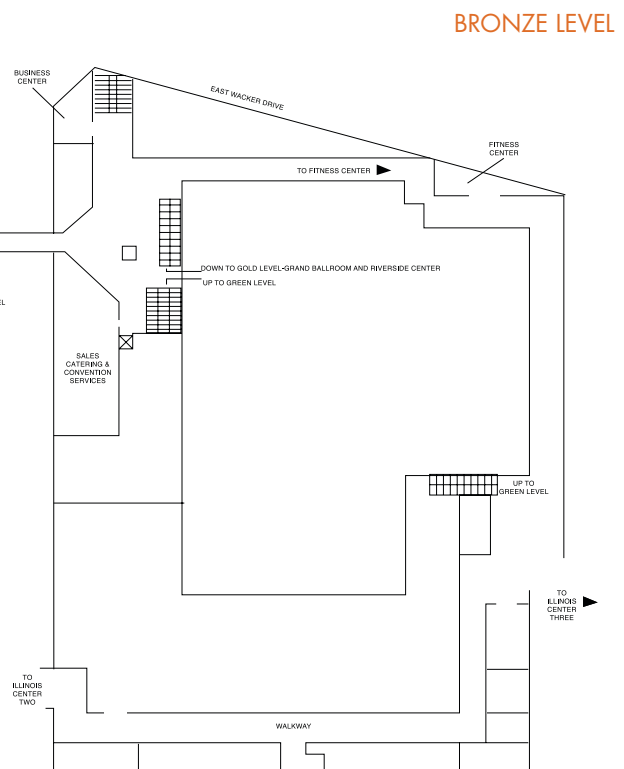


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GREEN LEVEL



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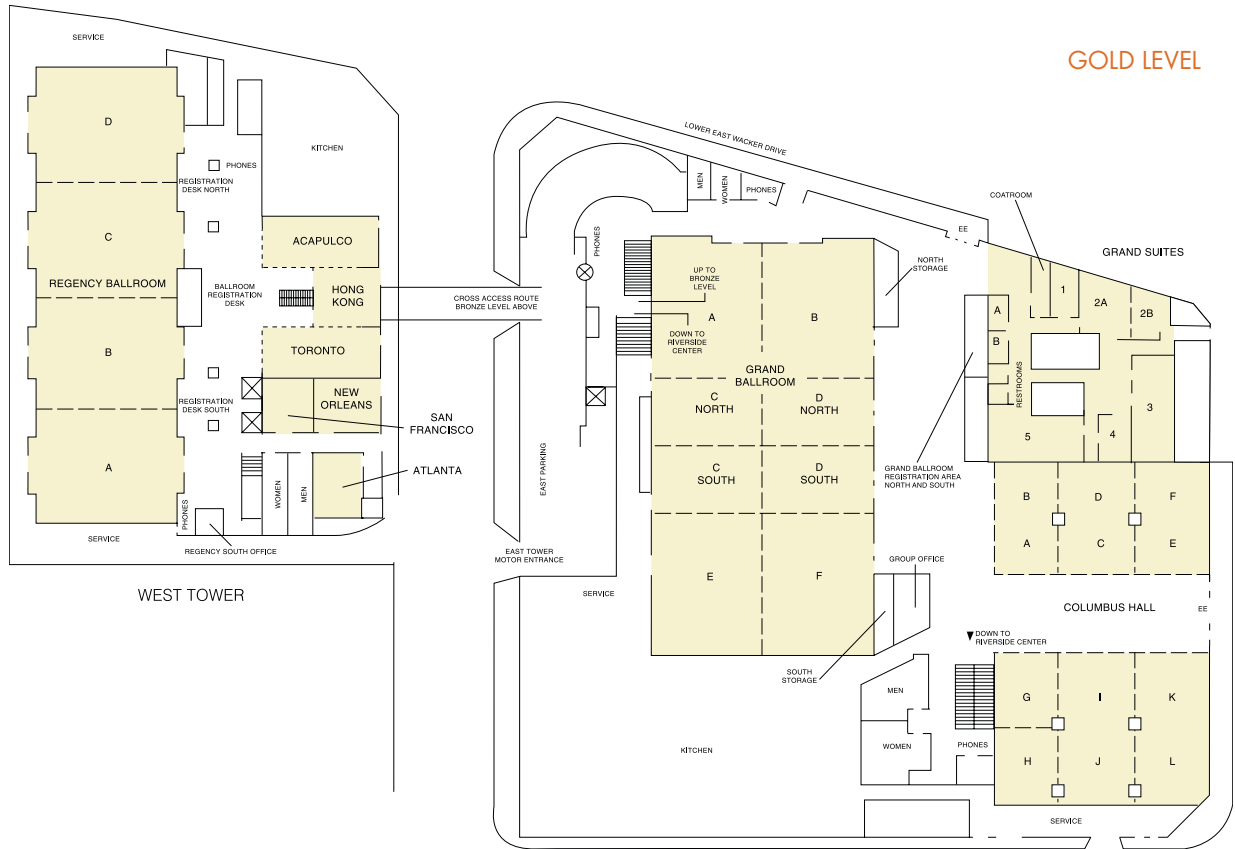


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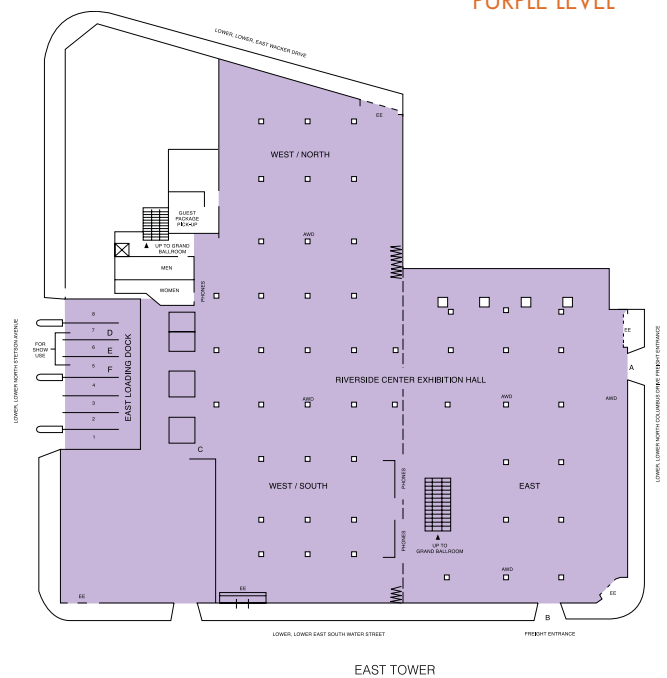
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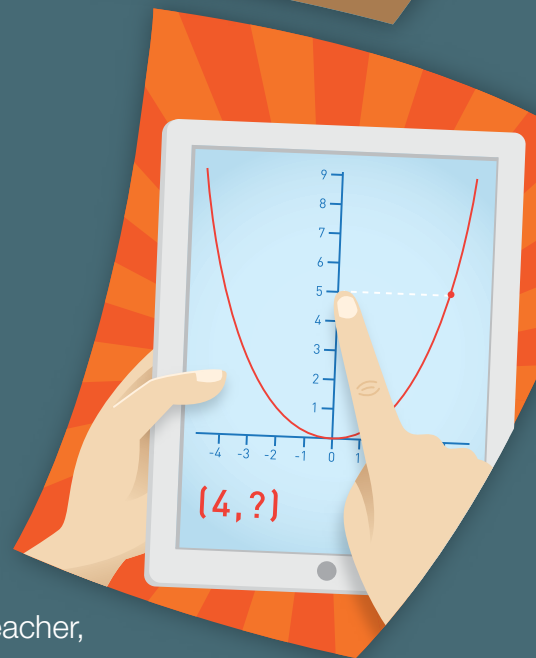


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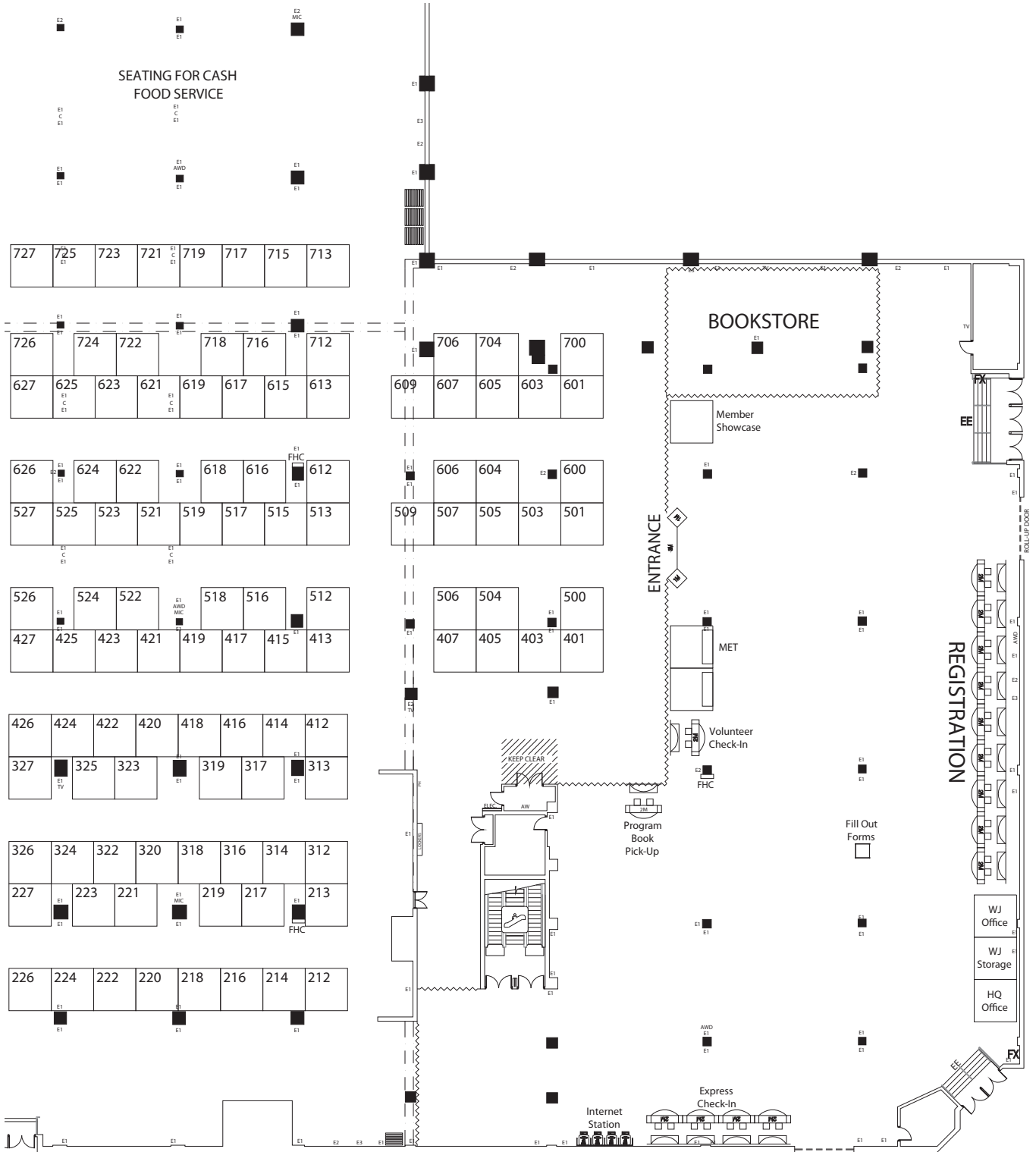
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Exhibitor Directory

The Mathematics Education Trust

Booth: 320
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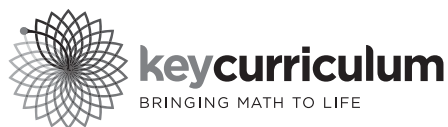
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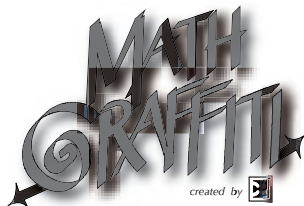
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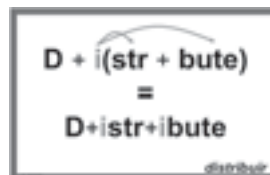
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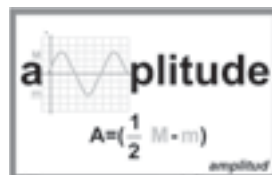


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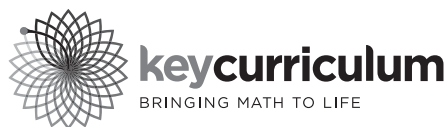
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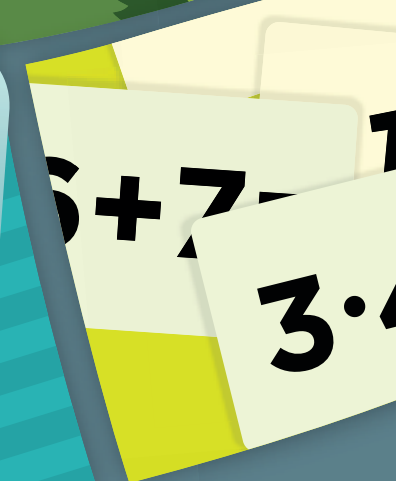
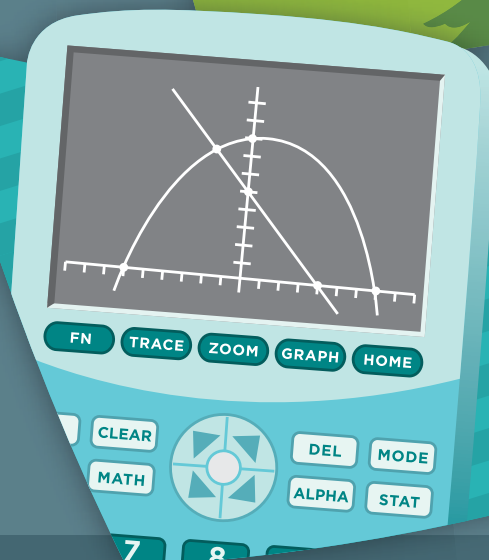
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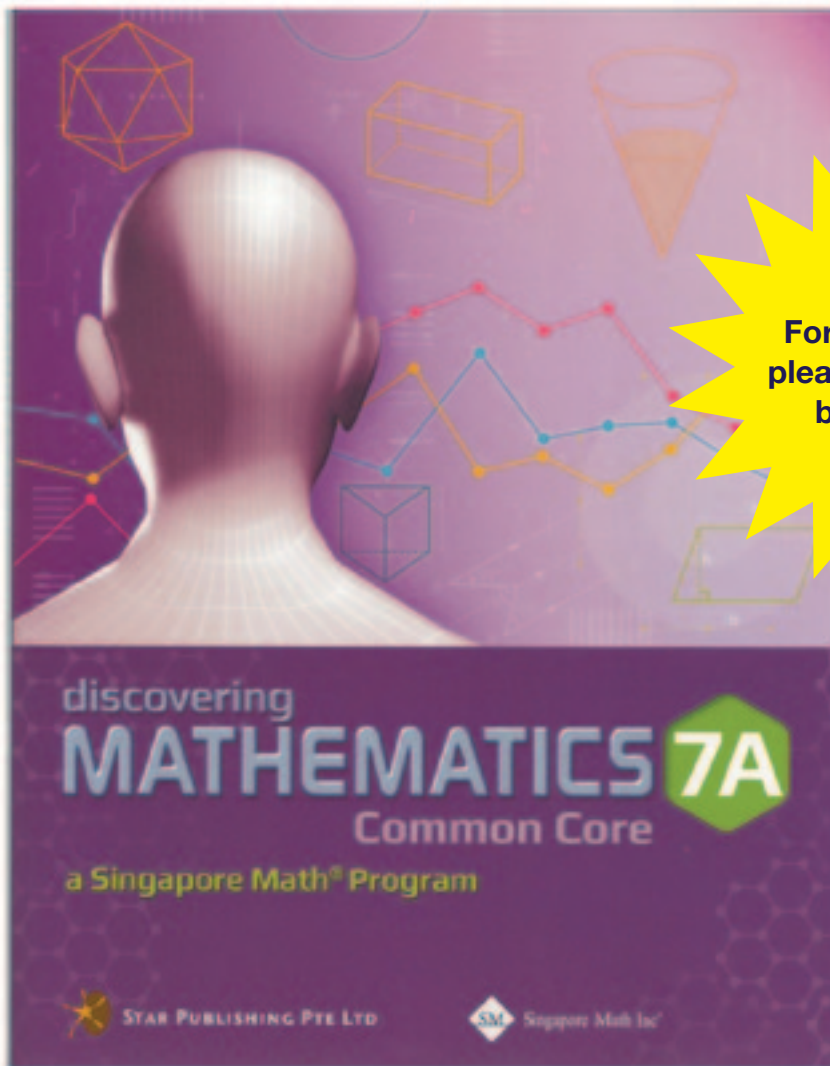




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