

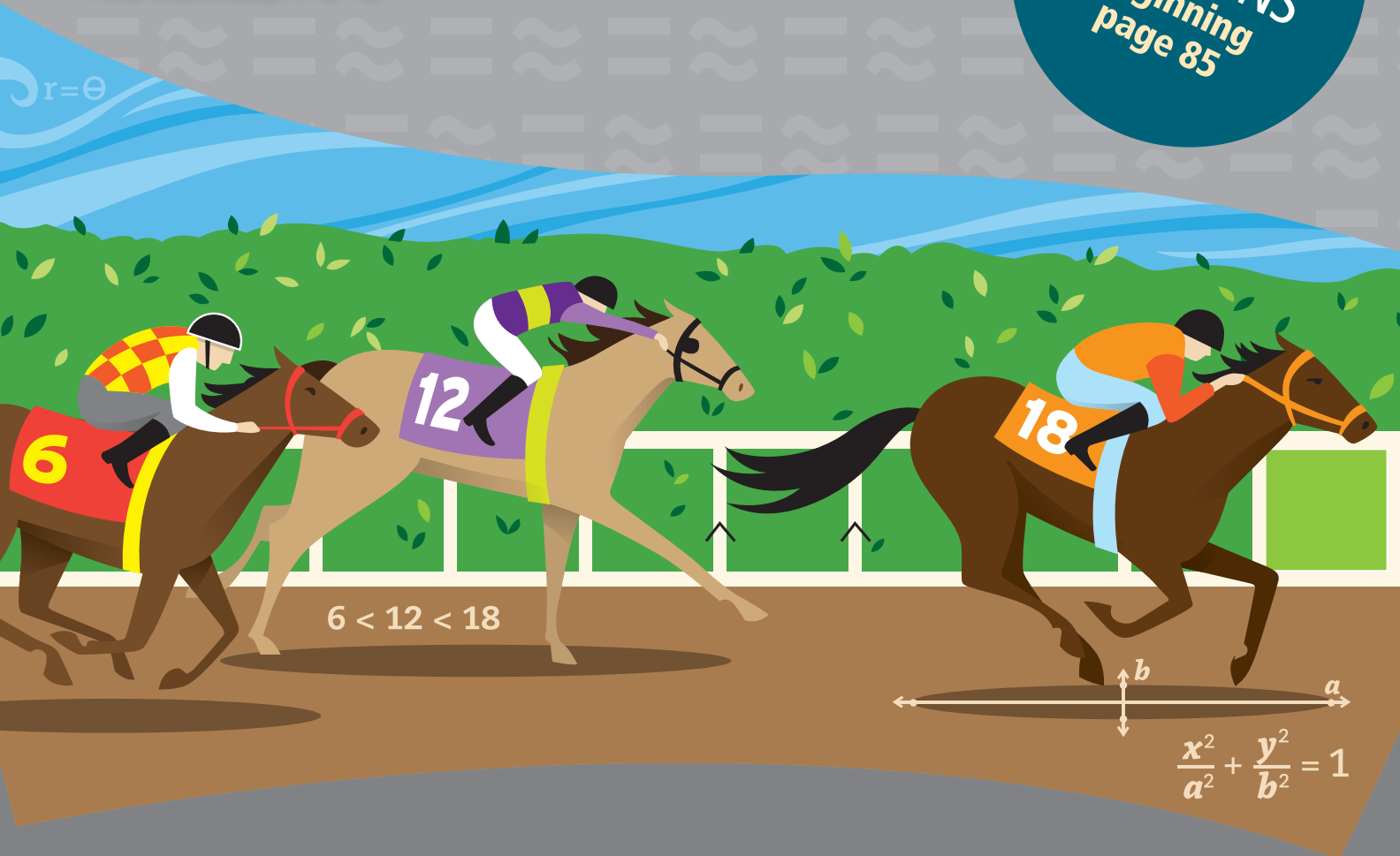
NCTM

2013

Regional Conference & Exposition

LOUISVILLE, KENTUCKY
NOVEMBER 6–8

See Valuable
COUPONS
beginning
page 85



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

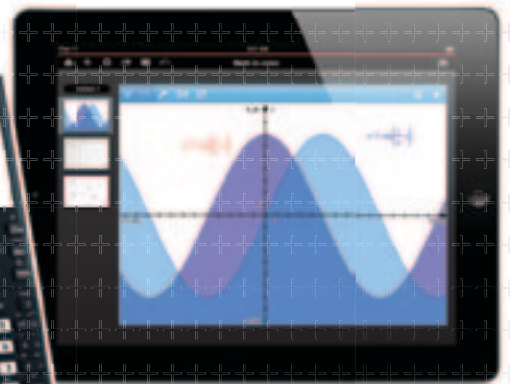
PROGRAM BOOK

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NCTM 2013 Regional Conferences & Expositions LOUISVILLE, KY • NOVEMBER 6-8

HOSTS

Kentucky Council of Teachers of Mathematics
Greater Louisville Council of Teachers of Mathematics

MEETING FACILITY

All Regional Conference presentations will be held at the Kentucky International Convention Center.
See pages 70-74 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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Advertisers Guide	82
Coupons	85-88
Affiliates	66-67
Apps	7
Bookstore	6
Certificate of Attendance	63
Committees	69
Exhibits	7
Directory	75-80
Exhibit Hall Floor Plan	74
Exhibitor Workshops	7
First Aid	7
Floor Plans	70-73
Focus of the Year	3
General Information	6-7
Information Booth	7
Member Showcase	6
Membership Application	65
NCTM Officers	69
Networking Lounge	7
Online Planner	7
Presentation Handouts	7
Program Information	3-5
Opening Session	9
Thursday Presentations	11
Friday Presentations	37
New and Preservice Teachers Workshop	3
New Members and First Timers' Orientation	3
Program Updates	5
Strands	3-5
Focus Strands	4-5
Learn↔Reflect Strand	3
Types of Presentations	5
Registration and Access to Presentations	6
Speaker Index	81-82
Sponsors	68

www.nctm.org/louisville

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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.

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Welcome to Louisville!



© Dan Dry, Derby Field. Louisville Convention & Visitors Bureau

Whether you have been to Louisville before or this is your first time in our great city, we know you will find plenty to do. Because the conference is in the heart of downtown, we are excited to show you the many options this area of town has to offer.

In Louisville, we pride ourselves on the walkability of our city. Hundreds of businesses are connected to our skywalk system, called the Louie Link. This stretches from our entertainment district, Fourth Street Live!, to the KFC Yum! Center. This means you will be able to access everything from a quick bite at the food court to a white tablecloth dinner with ease. Free trolleys stop all over downtown, which makes it a breeze to get around. They go all the way to our up-and-coming NuLu area, one mile east of downtown where you can also find some delicious eats or light shopping.

The downtown area is also rich with unique attractions. Museum Row on Main is a quick stroll from the hotels, featuring nine attractions within four walkable blocks. Learn about “The Greatest” in and out of the ring at the Muhammad Ali Center; see the world’s largest bat at the Louisville Slugger Museum & Factory; learn about the state’s intricate history at the multimedia KentuckyShow! narrated by Ashley Judd; and see artifacts that helped shaped our nation, including a sword owned by Josiah Bartlett, signer of the Declaration of Independence, and

a rifle owned by our first president, George Washington. Head to the Ohio River and take a cruise on the Belle of Louisville, America’s last true Mississippi River steamboat still in operation.

Our Louisville Visitors Center is in the center of town on the corner of 4th and Jefferson. The center is staffed seven days a week with people who can tell you where to go, where to eat, and how to get there. Free walking tours of the city are also available by appointment. We can’t wait for you to experience downtown Louisville. We think you will enjoy the convenience and versatility of the area and hope you find it to be a fun and educational experience.



Sarah B. Bush
Program Committee Chair
Bellarmine University
Louisville, Kentucky



E. Todd Brown
Volunteer Committee Chair
University of Louisville (Retired)
Louisville, Kentucky



The NCTM 2013 Regional Conference & Exposition officially begins with the Opening Session, featuring Matt Larson (see page 10), starting at 5:30 p.m. on Wednesday. Presentations on Thursday and Friday begin at 8:00 a.m. each day and are scheduled concurrently throughout the day.

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

Please remember:

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

New and Preservice Teachers Workshop

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

Thursday and Friday
10:30 a.m.–12:00 noon
Room 104

New Members 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 a.m.
Room L6/L7

Professional Development

FOCUS OF THE YEAR 2013–2014

This year's Focus of the Year is **Number and Operations: Be Radical and Get Real!**

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

NUMBER AND OPERATIONS:
BE RADICAL AND GET REAL!

THURSDAY, NOVEMBER 7

Plan one full day for the Focus of the Year topic, **Number and Operations: Be Radical and Get Real!** The strand begins with a morning Kickoff session and concludes with an end-of-the-day Reflection session. In between, choose from among a number of sessions exploring the topic, all marked with the symbol **LCR**. 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 is number sense, and how can you promote the development of number sense in your students? How are fluency and understanding related in the context of number and operations?
2. How can instructional decisions facilitate the development of strategies that are meaningful and transferable for operations on all numbers?
3. How are equity and diversity promoted by developing conceptual understanding of number?
4. How can the Standards for Mathematical Practice support the development of number sense and computational fluency?
5. How are you thinking differently about your learning and teaching of number and operations as a result of participating in the Learn↔Reflect sessions?

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
Thursday, 9:30 a.m.
Room L14

Learn↔Reflect Reflection Session
Thursday, 3:30 p.m.
Room 209

Program Information

Focus Strands

MATHEMATICAL LEARNING TRAJECTORIES (THURSDAY)

Mathematical learning trajectories provide descriptions of children's developmental thinking within a particular content domain. These trajectories speak to the types of instructional tasks teachers can use to support students' ascension through the trajectory. Sessions included in this focus strand will provide an overview of learning trajectories, detailed descriptions of specific trajectories, and related instructional tasks.

Strand Speakers

Jeff Barrett (#91)
Michael Battista (#88)
Maria Blanton (#54)
Joanne Cady (#67)
Doug Clements (#5)
Alan Maloney (#116)

Other presentations related to this topic: Amanda Miller and Cheryl Eames (#10), Jennifer Nickell and Alan Maloney (#12), Tim Sears and Ellen Sears (#138)

ENGLISH LANGUAGE LEARNERS (FRIDAY)

The sessions in this strand focus on engaging English Language Learners of all ages and levels of English proficiency in meaningful mathematics. Ideas for differentiating instruction, utilizing effective assessments, and guiding students to construct a conceptual understanding of mathematics will be shared.

Strand Speakers

Jennifer Bay-Williams (#124)
Higinio Dominguez (#214)
Anne Estapa (#178)
Stefanie Livers (#164)
Deandra Murrey (#189)
Amy Nebesniak and Aaron Burgoa (#241)
Rachel Syrja (#216)

DEVELOPING MATHEMATICAL PROMISE, TALENT, CREATIVITY, AND GIFTEDNESS (FRIDAY)

Quality education must capture mathematical passions and imagination and develop the potential of a wide range of mathematically promising students. Join us in this strand for a discussion of these issues, suggestions for students' development, and a look at critically needed development and dissemination of research to prepare the STEM leaders of tomorrow.

Strand Speakers

Heather Carmony (#133)
Tutita Casa (#177)
Scott Chamberlin (#225)
Suzanne Chapin (#215)
Kathryn Chval (#200)
Carole Greenes (#191)
Becky Leff (#161)
Linda Sheffield (#149)

CCSS: STANDARDS FOR MATHEMATICAL PRACTICE (THURSDAY)

The Common Core State Standards focus not only on content but on habits of mind as well. Like the NCTM standards, the Standards for Mathematical Practice (SMPs) are about the thinking and processing that we want all of our students to be doing. This strand will help you better understand what the SMPs look and sound like in the classroom when students are engaged in problem solving.

Strand Speakers

Christopher Danielson (#52)
Christian Hirsch (#98)
Hank Kepner and Fred Dillon (#112)
James Kratky (#3)
Laura Parn (#94)
Betty Phillips (#35)
Drew Polly and Amy Lehew (#31)
Mike Shaughnessy (#65)

Other presentations related to this topic: Diane Briars (#154), Heather Brown and Alanna Mertens (#145), Ed Dickey (#134), Brianna Donaldson (#71), Kelly Edenfield (#132), Ted Hull and Don Balka (#78), Diane Lambdin (#32), Maggie McGatha, Jennifer Bay-Williams, and Beth Kobett (#234), Carolyn Moore (#147), Samuel Otten (#155), Susan Peters and Jonathan Watkins (#118), Elizabeth Phillips (#35), Theresa Reilly (#169), Rose Zbiek (#158)



EXPLORING FRACTIONS (FRIDAY) **EF**

Assist your students in deepening their fraction knowledge by engaging in a variety of sessions in the Exploring Fractions strand. The sessions include foundational fraction concepts, fraction division, interpreting students' thinking about fractions, exploring fractions through interactive activities, and initial decimal concepts.

Strand Speakers

M. Lynn Breyfogle (#139)
Kathleen Cramer and Debbie Monson (#165)
Fred Dillion (#70)
Francis (Skip) Fennell and Jon Wray (#19)
Alanna Mertens and Heather Brown (#199)
Debbie Monson and Kathleen Cramer (#69)
Meghan Shaughnessy (#186)
Erik Tillema (#131)

Other presentations related to this topic: Rick Anderson (#168), Kim Sutton (#141), Trena Wilkerson (#176)

SPECIAL EDUCATION (THURSDAY) **SE**

This strand is intended to support teachers who work with the spectrum of students who struggle with mathematics. These sessions offer a variety of approaches and assessment strategies to assist special education teachers, Title I teachers, and regular classroom teachers who instruct students with a wide range of abilities. This strand is appropriate for teachers of students with special needs.

Strand Speakers

Diane Bryant (#79)
Barbara Dougherty and Anne Foegen (#203)
Anne Foegen and Barbara Dougherty (#24)
Karen Karp and Amy Lingo (#11)
Judy Storeygard (#92)
Delinda van Garderen, John Lannin, and Tiffany Hill (#42)
John Woodward (#57)

Other presentations related to this topic: Ginevra Courtade, Amy Lingo, and Jeremy Whitney (#80), Christa Jackson and Margaret Mohr (#108), Mary Hodges (#93), Karen Ross-Brown (#27), Andrew Scott and Amy Johnson (#33)

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 audio-visual 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**—Issues of interest 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 additional exhibitor workshop listings. Program Updates are available in the Registration Area.

General Information

Tips for a Rewarding Regional Conference & Exposition

- Access the Conference App for conference alerts and up-to-the-minute information. Visit www.nctm.org/confapp.
- Access available speaker handouts at www.nctm.org/plan.
- Become familiar with the layout of the Kentucky International Convention Center by reviewing the floor plans on pages 70–75.
- Visit the **NCTM Bookstore** for the latest NCTM educational resources and the **Member Showcase** to learn more about how NCTM can help you professionally and pick up free resources.
- Stop by the Information Booth for information on the local area.
- Wear comfortable shoes and clothes, and dress in layers.
- Turn off cell phones during presentations.
- Be safe! Remove your name badge when you leave the conference facilities at the end of the day.

Registration and Access to Presentations

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

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

For Your Child's Safety

Due to the size and nature of the NCTM 2013 Regional Conference & Exposition, this event is not an appropriate setting for children under 16 years of age. Children under age 16 will not be permitted in the Exhibit Hall. We appreciate your understanding and cooperation. Children 16 years and over will need to register as nonteaching guests. To register a nonteaching guest, please visit the Registration Area.

Member Showcase

Make sure to stop by the **NCTM Member Showcase** located in the Exhibit Hall and let us help you learn more about how your NCTM membership can help you be more successful. A membership provides you access to lessons, teaching tips and strategies, research findings, and more. Classroom-ready activities, sample journals, and other materials will be available for you to take back and 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 support you with your daily challenges!

Renew your membership or join NCTM for the first time on site and you will receive a **free** New Orleans Annual Meeting t-shirt! While supplies last.

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 Exhibit Hall. Check out NCTM's newest titles and bestsellers and find NCTM gear for yourself and for 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 a **Kentucky 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 Kentucky 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 Kentucky are not valid for this regional conference.

The NCTM Bookstore is not equipped to handle shipping from the meeting site. The Kentucky International Convention Center Business Center can assist you with your shipping needs.



Information Booth

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

Networking Lounge

The Networking Lounge is a prime location to meet up with colleagues between presentations! Whether you want to make connections with fellow conference goers, exchange teaching tips, or catch up with friends, you'll find a comfortable spot in the Network Lounge to do so. Download the Conference App to receive alerts for scheduled networking meet-ups!

Lost-and-Found

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

First-Aid Station

There will be a first-aid station at the Kentucky International Convention Center during the NCTM conference. If you need medical services while in Louisville, please check with the hotel concierge for the closest medical facilities.


Your Opinion Counts!

Thank you for attending the NCTM 2013 Regional Conference & Exposition. In the days following the Regional Conference, you will receive an e-mail asking for an evaluation of your meeting experience. Please take a moment to complete the survey. Your feedback is important to us and will be instrumental in the Regional Conference and Exposition planning process.

Exhibits

Be sure to make time in your schedule to visit the NCTM Exhibit Hall. To give you dedicated time to visit the exhibits, no presentations will take place from 4:00 p.m. to 5:00 p.m. on Thursday. Explore, try out, and purchase products and services to 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. Check out the list of exhibits and a map of the Exhibit Hall on pages 74–80. 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 are held on Thursday and Friday and offer a wide variety of topics. For exhibitor workshop offerings, look for presentations in this program book marked with the symbol  or see the Program Updates.

Conference App

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

Presentation Handouts

Attendees can access available electronic presentation handouts through the conference app and online planner. Handouts will be available until **December 31, 2013**.

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 continually updated with the latest program changes and presentation information. Visit www.nctm.org/plan to check it out.

NCTM App

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

Engage Students and Inspire Learning

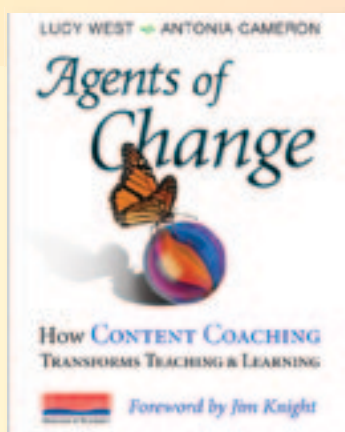
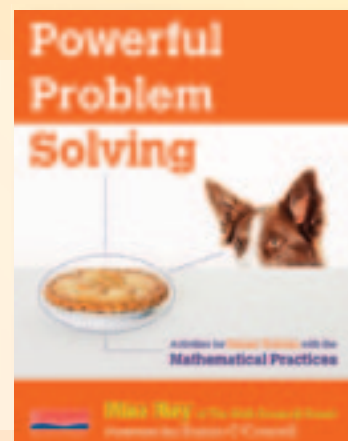
Check out these new books from Heinemann

Powerful Problem Solving

Activities for Sense Making with the Mathematical Practices

Max Ray, of the Math Forum at Drexel, shows what's possible when students become active doers rather than passive consumers of mathematics. Self-confidence, reflective skills, and engagement soar as students discover different ways to approach problems.

Grades 3–8 / 978-0-325-05090-4 / 2013 / 208pp / \$19.25



Agents of Change

How Content Coaching Transforms Teaching and Learning

How can teacher leaders cultivate an environment that will improve student learning in every classroom? **Lucy West** and **Toni Cameron** turn decades of experience designing and implementing coaching initiatives into a practical resource for transforming school culture and inspiring true learning.

Grades K–8 / 978-0-325-01383-1 / 2013 / 232pp / \$25.82

Putting the Practices Into Action

Implementing the Common Core Standards for Mathematical Practice

Susan O'Connell and **John SanGiovanni** provide practical activities to help you quickly integrate the eight Standards for Mathematical Practices into your existing math program. With classroom vignettes, sample activities, and helpful teaching tips, they bring the standards to life.

Grades K–8 / 978-0-04655-6 / 2013 / 168pp / \$16.63



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HIGHLIGHT
Opening Session (Presentation 1): The Challenge of Making CCSSM Matter



CONFERENCE APP

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FACEBOOK

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



TWITTER

Use Twitter to follow the Conference!
www.twitter.com/nctm
#NCTMLouisville

REGISTRATION HOURS

5:00 p.m.–8:00 p.m.

BOOKSTORE AND MEMBER SHOWCASE HOURS

5:00 p.m.–7:00 p.m.

FIRE CODE

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

1



The Challenge of Making CCSSM Matter

Opening Session

Adopting new content standards alone is unlikely to reduce existing learning differentials. For implementation of the Common Core State Standards for Mathematics (CCSSM) to raise the achievement of all students and close existing learning differentials, implementation efforts must simultaneously address the five paradigm shifts that will be the focus of this session.

Matthew R. Larson

Lincoln Public Schools, Nebraska

Cascade Ballroom A/B



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A new K–5 curriculum
mathlearningcenter.org/bridges

Building mathematical thinkers

Bridges facilitates the development of confident mathematical thinkers and motivated learners with the ability to explore new ideas and articulate their questions and insights.

Written specifically for new standards

Now in its second edition, Bridges distinguishes itself by bringing together the Common Core content and practice standards in a coherent and engaging way through an emphasis on problem-solving and visual models.

Find out more

Join us for an overview of this unique program and learn more about work places, visual models, and putting the mathematical practices into action.

Friday, November 8

9:30–10:30am in Room 103

Visit our booth to learn more about Bridges, receive a giveaway and try out our free math apps.



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HIGHLIGHTS

- New Members and First Timers' Orientation (Presentation 2)
- Learn↔Reflect Kickoff Session (Presentation 29)
- New and Preservice Teachers Workshop (Presentation 39)
- Learn↔Reflect Reflection Session (Presentation 113)

ICON

PRESENTATION NUMBERS

EW Exhibitor Workshops	14.1, 14.2, 38.1, 38.2, 62.1, 62.2, 98.1, 98.2, 122.1
LR Learn↔Reflect	29, 53, 55, 58, 61, 66, 69, 70, 73, 90, 95, 96, 97, 113
CC CCSS: Standards for Mathematical Practice	3, 31, 35, 52, 65, 94, 98, 112
EF Exploring Fractions	19, 69, 70
ML Mathematical Learning Trajectories	5, 54, 67, 88, 91, 116
SE Special Education	11, 24, 42, 57, 79, 92



CONFERENCE APP

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



FACEBOOK

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



TWITTER

Use Twitter to follow the Conference!
www.twitter.com/nctm
 #NCTMLouisville

REGISTRATION HOURS

7:00 a.m.–3:00 p.m.

EXHIBIT AND NETWORKING LOUNGE HOURS

8:00 a.m.–5:00 p.m.

BOOKSTORE AND MEMBER SHOWCASE HOURS

7:00 a.m.–5:00 p.m.

FIRE CODE

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.

Jane Porath

Board of Directors, National Council of Teachers of Mathematics; Traverse City East Middle School, Michigan

Tommy Hodges

University of South Carolina, Columbia

Karen Graham

Board of Directors, National Council of Teachers of Mathematics; University of New Hampshire

Room L6/L7

8:00 A.M.–9:00 A.M.

3 Connecting and Reconnecting to What It Means to Understand Mathematics

(General Interest) Session

The Common Core State Standards for Mathematics set the stage for the Standards for Mathematical Practice by mentioning some of the hallmarks of understanding mathematics. We will generate a list of hallmarks and reflect on ways that teachers at all grade bands can continue to improve their instruction. Also, we will discuss how this connects to professional teaching.

James L. Kratky

Western Michigan University, Kalamazoo

Cascade Ballroom B



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

4 Designing Professional Development for Mathematics Teachers

(General Interest) Session

Designing professional development for mathematics educators requires insight into teachers' level of expertise and their confidence in teaching mathematics. Using teacher self-assessment, professional development was designed to create a multilevel approach to teacher training.

Patricia A. Dickenson

National University, San Jose, California

Judith Montgomery

University of California Santa Cruz

Room 218

5 Lessons from Research: Standards, Teaching, Learning Trajectories

(General Interest) Session

Math education is in a state of dramatic change. What does the research say that provides reliable guidance to using new standards, curricula, and teaching strategies? Discuss lessons from recent research. At the core of many successful efforts are learning trajectories: research-based paths of learning and teaching.

Douglas H. Clements

University of Denver, Buffalo, New York

Cascade Ballroom C

6 Math Journaling with a Twenty-First-Century Twist: iJournals

(General Interest) Session

Follow the journey a partnership—consisting of a preservice teacher, an in-service teacher, and a university professor—took with integrating iPads in math journaling with first graders. We will share lessons learned, effective apps, and specific strategies for integrating iPads in first-grade classrooms.

Katie Kinney

University of North Alabama, Florence

Mandy Wicks

Kilby Laboratory School, Florence, Alabama

Kaitlin Ashley

University of North Alabama, Florence

Room 110/111



7 PARCC: Realizing a New Vision of Assessment

(General Interest) Session

Partnership for the Assessment of Readiness for College and Careers (PARCC) is an alliance of twenty-two states committed to developing assessments for grades 3–11 that measure student performance according to the Common Core State Standards and to doing so in a way that contributes to student learning. I will address PARCC's goals, characteristics of the assessments, and several mathematics items.

Cory Curl

Achieve, Washington, D.C.

Cascade Ballroom A

8 Reasoning about Rational Numbers on the Cartesian Coordinate Plane

(General Interest) Session

I will model formative assessment strategies while you represent ratios and proportions on the Cartesian coordinate plane. This visual model for what is often taught as an abstract concept allows students easy access to understanding slope and linear functions. We will explore range questions and conjecture boards.

Anne M. Collins

Lesley University, Cambridge, Massachusetts

Room L14

9 Building Formative Assessment Practices to Support the Common Core State Standards

(Pre-K–2) Session

Understanding of number is crucial to students' development in mathematics. Explore formative assessment as a tool for building the level of number understanding necessary for mathematical proficiency. I will focus on multiple assessment practices dealing with major concept areas in elementary mathematics.

Drew Polly

University of North Carolina at Charlotte

Room L6/L7

10 Learning Trajectories as Instructional Tools, K–5

(Pre-K–5) Session

We will explore how learning trajectories can be used as diagnostic, analytical, and instructional tools for teachers, as well as share sample tasks on measurement (length, area, volume). We will share student work to highlight common responses to those tasks. Leave with research-based, classroom-ready tasks.

Amanda L. Miller

Illinois State University, Normal

Cheryl L. Eames

Illinois State University, Normal

Melike Kara

Illinois State University, Normal

Room 201/202

Chi Alpha Mu
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matheta@ou.edu
www.mualphatheta.org

11 Teaching the Common Core to Students Who Struggle in Mathematics

(3–5) Session

Students with disabilities often struggle in mathematical achievement. We will focus on the concrete–semiconcrete–abstract model of teaching math concepts to students who struggle in mathematics. You will get a chance to apply content to video-based case studies that focus on the Common Core State Standards.

Amy Lingo

University of Louisville, Kentucky

Karen S. Karp

University of Louisville, Kentucky

Room 105

12 Navigating Middle School Statistics Learning in CCSSM

(6–8) Session

See how to navigate the demanding Common Core State Standards for Mathematics (CCSSM) statistical standards using a learning trajectory of variation, distribution, and modeling. Participate in vertical team discussions about students' conceptual development and instructional coherence for grades 6–8 using descriptor resources from turnonccmath.net.

Jennifer Nickell

North Carolina State University, Raleigh

Alan Maloney

North Carolina State University, Raleigh

Room 209

13 Square Roots Go Rational

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

This collection of activities explores the square roots of not-so-perfect squares and develops an algorithm to express the not-so-perfect square root as a rational value. Explorations continue as the algorithm is compared to calculator value to find the regression coefficient and strength of this relationship.

Dana Humble Dodson

Indiana University Northwest, Gary

Michael Todd Edwards

Miami University, Oxford, Ohio

Room 106/107

14 Using NASA Press Releases to Develop Integrated STEM Lessons

(9–12) Session

NASA press releases, integrated space math problems, and NASA videos bring standards-based learning to life with topics such as habitability, astrobiology, and climate change. Sten Odenwald, SpaceMath@NASA creator, will cofacilitate this session. You will receive STEM modules and other resources in a LiveBinder.

Sharon Bowers

National Institute of Aerospace; Virginia Beach City Public Schools, Hampton

Sten Odenwald

National Institute of Aerospace, Hampton, Virginia

Room 219

14.1 Teaching Look 4s: Tools and Resources Focused on the Mathematical Practices

(General Interest) Exhibitor Workshop

The eight Common Core math practices provide purpose for change and require shifts in classroom practice. Instructional shifts are an opportunity to focus on observable teaching skills. This session provides an overview of coaching resources to support teachers, as you talk about specific skills that develop desired academic behaviors in students.

Pearson

Washington, D.C.

Room 102

14.2 Pearson High School Math and the Common Core

(9–12) Exhibitor Workshop

Learn how this blended print and digital curriculum (grades 9–12) not only engages students but also infuses Common Core Standards and Mathematical Practices throughout each lesson to ensure all learners acquire the critical knowledge and skills necessary to succeed in college and in their careers.

Pearson

Upper Saddle River, New Jersey

Room 103

15 Bridging Mathematics and Literacy with Children's Books and Manipulatives

(Pre-K–2) Gallery Workshop

Engage in hands-on activities for pre-K–grade 2 students integrating math, children's literature, and manipulatives. Use inexpensive materials to create fascinating projects incorporating math lessons and literature.

Sallie Harper

Mississippi State University, Meridian

Tory Shirley

Mississippi State University, Meridian

Suzanne Waddell

Mississippi State University, Meridian

Room L15

16 Early Algebra for Young Students

(Pre-K–2) Gallery Workshop

How early can we introduce algebra to students? Having different activities for students to develop problem-solving techniques helps students learn algebra without realizing it. Engaging students in learning activities that make a foundational connection to algebra in later grades helps them understand the building blocks for algebra.

Kari M. Everett

Eastern Kentucky University, Richmond

Room 101

17 Engaging Students in Number Sense, Geometry, Problem Solving, Reasoning, and Discourse

(Pre-K–5) Gallery Workshop

Explore strategies, including use of manipulatives, to develop number sense, place value, estimation, geometry, and problem solving. See the power of mathematical discourse to develop concepts, reasoning, and mathematics vocabulary. Experience hands-on activities.

Donna L. Knoell

Consultant, Shawnee Mission, Kansas

Room 203-206

18 Singapore's Secret to Mathematical Success and Supporting CCSS

(Pre-K–5) Gallery Workshop

With the Common Core State Standards (CCSS) comes an expectation that our students will become better mathematicians. Content must be more focused, coherent, and rigorous. Instruction should include practices that support this content. Singapore teachers have applied these practices and achieved international success. We will explore their pedagogy and how it leads to mathematical success.

Kelly C. Snyder

Houghton Mifflin Harcourt, Boston, Massachusetts

Room 104

19 **EF** Fraction Sense: How Do We Get There?

(3–8) Gallery Workshop

Fractions have always been important. Are they more important today? Come and see how recommendations from the Institute of Education Sciences Practice Guide—Developing Effective Fractions Instruction and the Common Core State Standards for Numbers and Operations—Fractions connect and let's all consider how students can and must develop fraction sense.

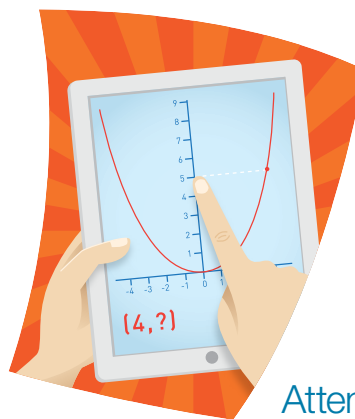
Francis (Skip) Fennell

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

Jon Wray

Board of Directors, National Council of Teachers of Mathematics; Howard County Public Schools, Ellicott City, Maryland

Room 108



NCTM newbie?

Attend the **New Members & First Timers' Orientation** to learn how to enhance your conference experience and maximize your membership's benefits.

See **page 3** for details.

8:30 A.M.–10:00 A.M.

20 Write Proofs! How the Logic in Games Develops Proof-Like Reasoning

(3–8) Gallery Workshop

Creating viable arguments (a Common Core State Standards expectation) is challenging for many students with special needs. We will share how we used games and strategy discussions to develop students' critical thinking and oral and written communication. We will share student work to trace the evolution of their writing, as well as games and lessons.

Antonia Marie Cameron

Metamorphosis Teaching Learning Communities, New York, New York

Lauren O'Neill

New York City Department of Education, Brooklyn, New York

Karine Kelley

New York City Department of Education, Brooklyn, New York

Room L4/L5

21 Costuming and Mathematics: The Process of Hat Design

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

To help preservice teachers begin to understand the relationship between mathematics and art in the world of costume design, we created lesson plans based on one very important and expressive element of the costume—the hat! Come and immerse yourself in the history of hats and the process of hat design.

Shelly Sheats Harkness

University of Cincinnati, Ohio

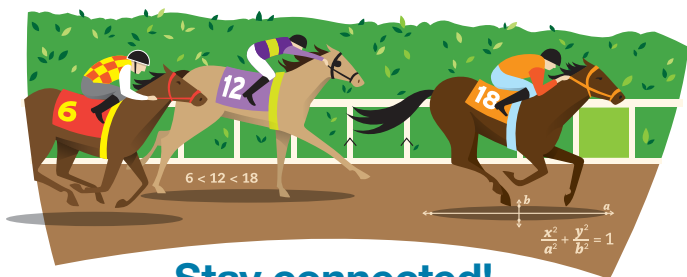
Susan Gregson

University of Cincinnati, Ohio

Regina Truhart

University of Cincinnati, Ohio

Room L2/L3



Stay connected!
Check us out on
Twitter and Facebook.

22 Data, Data Everywhere: Making Statistics Meaningful for All Learners

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

Explore measures of central tendency and variability by collecting and analyzing multiple sets of data. This data will be used to identify core content knowledge and recognize essential learner outcomes for *all* students while employing a culturally responsive, learner-centered focus and maintaining high expectations.

Amy Scheuermann

Minnesota State University, Mankato

Mark Zuiker

Minnesota State University, Mankato

Room 210/211

23 Engaging Students in Rich Mathematics Tasks

(6–12) Gallery Workshop

Engage in well-engineered assessment tools that support teachers in implementing the Common Core State Standards for Mathematics (CCSSM).

Jenny Ray

Kentucky Department of Education/Northern Kentucky Cooperative for Educational Services, Frankfort

Diane Culbertson

Northern Kentucky Cooperative for Education Services, Cold Springs

Room 212-217

24 SE Exploring Student Responses to Support Struggling Learners

(6–12) Gallery Workshop

Existing assessments for struggling learners often emphasize procedural aspects of mathematics learning. We will examine the responses provided by students to two types of tasks emphasizing either procedural or conceptual understanding of beginning algebra. We will share student work and discuss implications for instruction.

Anne Foegen

Iowa State University, Ames

Barbara J. Dougherty

University of Missouri, Columbia

Room 207/208

8:30 A.M.–10:00 A.M.

25 Tools for Teaching the Common Core State Standards

(6–12) Gallery Workshop

Are you overwhelmed by the large number of websites that promise to deliver the new Common Core State Standards (CCSS) to the classroom? Take a tour of some of the CCSS lessons, student tasks, assessments, videos, and student work samples that are available on the NCTM and National Council of Supervisors of Mathematics (NCSM) websites.

Amy Herman

Jefferson County Public Schools, Louisville, Kentucky
(Retired)

Room 112

26 Using Origami to Explore Proportional Relationships

(6–12) Gallery Workshop

Paper folding is a rich context for engaging students. We will use origami and a guided-discovery approach to explore various mathematical concepts in the Common Core State Standards, including proportionality, similarity, and scale factor.

Holly Anthony

Tennessee Technological University, Cookeville

Room 109

9:30 A.M.–10:30 A.M.

27 Access to Real Math for Students with Severe Disabilities

(General Interest) Session

Access to grade-level standards for students with severe disabilities raised expectations. How have higher expectations increased achievement and changed the delivery of math instruction? As an experienced educator, I will show you how proven math methodologies plus accessibility help educators get serious about math instruction for students with the most to gain.

Karen Ross-Brown

AbleNet, Inc., Roseville, Minnesota

Room 218

28 How to Shift Mindsets from Remembering How to Understanding Why

(General Interest) Session

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

Steven Leinwand

American Institutes for Research, Washington, D.C.

Cascade Ballroom C

29 Learn↔Reflect Kickoff: Identifying and Building Common Core Fluencies for Mathematics

(General Interest) Session

To become twenty-first-century learners and thinkers, students must see the connections between arithmetic and algebra. I will focus on building foundational fluencies so that struggling students can leverage fact knowledge, deepen understanding of fundamental concepts, and feel prepared for the more rigorous curriculum they will face.

Jan Scott

Scholastic Inc., New York, New York

Room L14

30 Reengagement: A Close Look at One Formative Assessment Strategy

(General Interest) Session

Reengagement is grounded in the effective and intentional use of student thinking to improve learning. In this session, you will explore this strategy and experience a reengagement task. While reengagement is not a familiar strategy, it has been inspiring for teachers as they discover that a new stance toward assessment can support and advance learning.


Valerie Lynn Mills

Oakland Schools, Waterford, Michigan

Cascade Ballroom B

Thursday

9:30 A.M.–10:30 A.M.

31  **Attending to Precision and Modeling with Mathematics in Kindergarten–Grade 2**

(Pre-K–2) Session

Examine the Standards for Mathematical Practice in the Common Core State Standards. Explore cognitively demanding tasks and focus on what it means for K–2 learners to attend to precision and model with mathematics.

Drew Polly
University of North Carolina at Charlotte

Amy J. Lehw
Charlotte-Mecklenburg Schools, North Carolina

Cascade Ballroom A

32 **Helping Young Children Develop Mathematical Habits of Mind**

(Pre-K–5) Session

Do your students think like mathematicians: looking for patterns, eagerly justifying their reasoning, striving to make sense of mathematics, and appreciating its power and beauty? Come see classroom-tested ideas for developing these mathematical habits of mind and learn how such habits are related to the Common Core State Standards for Mathematical Practice.

Diana V. Lambdin
Indiana University, Bloomington

Room 110/111

33 **RtI: Critical Strategies Ensuring Success for Struggling Students (Grades 5–8)**

(3–8) Session

We will demonstrate proven methods and applications for response to intervention (RtI) success with state, NCTM, and Common Core standards. We'll also share research-based strategies implementing formative assessment, hands-on manipulative activities within the concrete–representational–abstract model, vocabulary development, and problem solving. Audience participation is important.

Andrew Scott
Math Teachers Press, Minneapolis, Minnesota

Amy Johnson
Math Teachers Press, Minneapolis, Minnesota

Room 106/107

34 **Using Dynamic Shapes to Explore the Properties of Shapes**

(3–8) Session

Come learn ways to use dynamic software to explore and analyze properties of 2-D shapes and develop mathematical arguments about relationships among these shapes. We'll share several classroom activities, video clips of students interacting with dynamic shapes, and pen casts of students' understanding of the relationships among 2-D shapes.

Shannon Driskell
University of Dayton, Ohio

Suzanne Harper
Miami University, Oxford, Ohio

Room L6/L7

35  **The CCSS Mathematical Practices: Alive in the Middle Grades**

(6–8) Session

The mathematical practices of the Common Core State Standards (CCSS) provide an opportunity to change the dynamics of the mathematics classroom. I will use student work and videos to illustrate the practices in the middle-grades classroom. Using these examples, we'll discuss the role of mathematical tasks, classroom discourse, and the teachers' role in promoting the practices.

Elizabeth Phillips
Michigan State University, East Lansing

Room 105

36 **Flip Your Classroom! Give It a Try for a Chapter**

(6–12) Session

We describe our attempt to flip our classrooms for one chapter in a geometry class. We will discuss our students' opinions, struggles, and successes. We'll also present a demonstration on creating your own movies. Bring a laptop if you can!

Kevin Carlin
Lakota East High School, Liberty Township, Ohio

Jennifer Nickell
North Carolina State University, Raleigh

Room 209



9:30 A.M.–10:30 A.M.

37 Transformational Geometry and Common Core: Are You Ready?

(9–12) Session

The Common Core State Standards set the bar for geometry in terms of rigid motions and congruence. This is not geometry as usual. What does a high school teacher need to know to teach this way? Are you ready?

Johnny Lott

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

Room 201/202

38 Using Student-Response Systems in Entry-Level College Math Courses

(9–12) Higher Education) Session

Student-response systems (clickers) have been used extensively in physics classrooms. Learn how clickers can be used in introductory mathematics courses to help teachers determine what students know about mathematical topics during instruction, rather than at the end of instruction.

Jonathan A. Engelman

Kettering College, Ohio

Room 219

38.1 **ew** Experience the CCSSM through Investigations and the Common Core

(Pre-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

Room 103

38.2 **ew**

Cracking the Code of Algebra to Ensure Success for All

(3–8) Exhibitor Workshop

How does Hands-On Equations® enable 80 percent of inner-city fourth graders to succeed with such basic equations as $4x + 3 = 3x + 10$ in only three lessons? Come and discover how effective instruction can dramatically shorten the learning process and lead to higher levels of success. If algebra is a foreign language to your students, this session is for you!

Borenson and Associates

Allentown, Pennsylvania

Room 102

Cracking the Code of Algebra

*Thursday, November 7
9:30 a.m. - 10:30 a.m.
Room #102*

Speaker:
Dr. John Helfen

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Thursday

39 New and Preservice Teachers Workshop

(General Interest) Gallery Workshop

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

David Barnes

National Council of Teachers of Mathematics, Reston, Virginia

Room 104

40 Ones, Tens, and Hundreds, Oh My!

(Pre-K–2) Gallery Workshop

Knowing a digit's position does not require knowing the number's value. Students who do not understand place value lack strategies for number comparisons and computations. Explore contextual experiences for modeling numbers with respect to place value, building confidence and competence with number and operations.

Rhonda Allen Burns

Making Math Magic, Lancaster, Kentucky

Vonda Stamm

Making Math Magic, Lancaster, Kentucky

Room L4/L5

41 Seeds to the Table: Growing Green Gardening Goes High Tech

(Pre-K–2) Gallery Workshop

Explore a Young Learners Classroom Garden project, which involves hands-on activities using garden produce to connect numeracy, literature, and SMART Board technology. View and discuss video of students' activities and receive graphic organizers to assess the mathematics.

Gina M. Kimery

Jefferson County Public Schools, Louisville, Kentucky

Lana B. Thomas

University of Louisville, Kentucky

Room 210/211

42 **SE**

Drawing Inferences to Inform Instruction for Struggling Learners

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

View student video examples and use a framework to assist in drawing conclusions (inferences) about the mathematical understanding of elementary students, particularly those who struggle with mathematics. Develop instructional tasks to address the difficulties identified.

Delinda van Garderen

University of Missouri, Columbia

John K. Lannin

University of Missouri, Columbia

Tiffany Hill

University of Missouri, Columbia

Room L2/L3

43 Algebraic Thinking through Literature

(3–5) Gallery Workshop

Literature is a powerful tool for developing algebraic thinking. Explore the power of literature to develop math concepts in students who are English language learners. Experience both hands-on learning and high-quality literature as tools for developing academic vocabulary and important algebraic concepts about operations and variables for every student.

William P. Bintz

Kent State University, Ohio

Sara D. Moore

ETA hand2mind, Vernon Hills, Illinois

Room 207/208

44 Games That Make You Think

(3–5) Gallery Workshop

Play newly developed games that take it to the next level—targeting grades 3–5 of the Common Core State Standards (CCSS) for Number and Operations—and foster the use of the CCSS mathematical practices. Differentiate instruction to support and challenge the full range of learners within the framework of a game and the follow-up class discussion. Walk away with ideas and game pieces.

Gail E. Gerdemann

Oregon State University, Corvallis

Kathleen Barta

Teacher to Teacher Publications, Lake Oswego, Oregon

Room 109

45 Math Teachers' Circle Demonstration

(6–8) Gallery Workshop

A math teachers' circle is a group of math teachers and mathematicians coming together to engage in mathematics. During this session, the Eastern Kentucky Math Teachers' Circle will engage the audience in a sample circle meeting on the topic using games to foster mathematical thinking. Experience KenKen and the SET game.

Cheryll E. Crowe
Eastern Kentucky University, Richmond

Michele Anderson
Corbin Independent School District, Kentucky

Cindy Davis
Corbin Independent School District, Kentucky

Room L15

46 Problem Solving with the Presidents

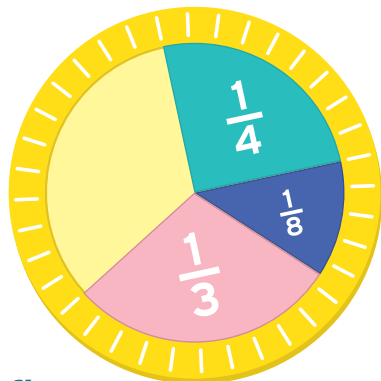
(6–8) Gallery Workshop

We will provide you with plans and guidelines to use presidential data interactively in the mathematics or social studies classroom through coteaching. In these activities, students model mathematical relevancy, share statistical connections, and analyze presidential data, all while focusing on the Common Core State Standards for Mathematical Practice.

Lynn Patterson
Council of Presidential Awardees in Mathematics, Murray, Kentucky

Kadie L. Patterson
Rockvale Middle School, Murfreesboro, Tennessee

Room 101



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

47 Promote Higher-Order Thinking: Tie Assessment Strategies to the Common Core

(6–8) Gallery Workshop

Investigate ways to formatively assess students in math by targeting specific instructional goals, integrating questioning strategies to promote higher-order thinking, and analyzing student work. Intentionally integrate a variety of formative assessment tools, including technology. Take away tools for immediate use in your classroom!

Robyn Whelan
Jefferson County Public Schools, Louisville, Kentucky

Kathryn S. Williams
Jefferson County Public Schools, Louisville, Kentucky

Room 112

48 Integrating Probability and Geometry through Shape Rolling

(9–12) Gallery Workshop

Dice have been used to discuss probability, but what if regular cube-shaped dice were stretched to make rectangular prisms? On what side would you expect the dice to fall? You will get the chance to roll different shapes and discuss how high school students used these shapes in lessons that bridge geometry and probability.

Michael Daiga
Indiana University, Bloomington

Erin Ingwersen
Hamilton Southeastern School Corporation, Fishers, Indiana

Jill Balke-Niehoff
Hamilton Southeastern School Corporation, Fishers, Indiana

Room 108

49 Complex Numbers Are within Reach of All Students

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

Aspiring high school teachers are not always exposed to complex numbers as undergraduates. I will focus on arithmetic, algebraic, and geometric ideas and introduce powers of i , enabling you to view important patterns leading to an example of an abelian group.

Jay L. Schiffman
Rowan University, Glassboro, New Jersey

Room 203-206

10:30 A.M.–12:00 P.M.

50 Hands-On Conics

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

Many hands-on teaching approaches help conic sections come to life for high school students. Attend and see how to use wax paper, Wikki Stix, cheese, thumbtacks, and string to construct conics, providing conceptual understanding of definitions.

L. Jeneva Moseley
University of Tennessee, Knoxville

Room 212-217

11:00 A.M.–12:00 P.M.

51 Making Math More Like Things Students Like: Video Games

(General Interest) Session

Students around the world are playing thousands of hours of video games every day, and in many cases, they're enjoying those games more than they enjoy our math classes. Let's look at several of the most popular video games of all time and pull out some lessons. As task designers, test givers, and classroom managers, what can we learn from those games?

Dan Meyer
Stanford University, California

Cascade Ballroom B

52 Standards for Mathematical Practice: They're Not Just for Students Anymore!

(General Interest) Session

What do the Common Core State Standards for Mathematical Practice offer a math major who teaches fractions to middle schoolers? Or an elementary teacher teaching place value? Or a seasoned high school algebra teacher? I will offer success stories and open-ended questions to challenge the mathematical minds of teachers at a variety of levels.

Christopher Danielson
Normandale Community College, Bloomington, Minnesota

Cascade Ballroom C

53 Developing Early Mathematics Fluency with CCSSM

(Pre-K–2) Session

In the spirit of expectation for student fluency in NCTM's Standards and the current call for fluency in the Common Core State Standards for Mathematics, we will discuss three ways K–2 students can reach fluency and continue to grow. We will show materials and student work and discuss pedagogical moves to help students become fluent.

Gabriel T. Matney
Bowling Green State University, Ohio

Tami D. Matney
Imagine Clay Avenue, Toledo, Ohio

Room 209

54 Learning Trajectories in Children's Thinking about Functions: Opportunities Missed?

(Pre-K–5) Session

Functions are an important domain in which children can engage in key algebraic thinking practices. But how does their understanding emerge? I will examine learning trajectories in how K–grade 2 children generalize and represent functional relationships and highlight important (but missed) learning opportunities that can begin in kindergarten.

Maria Blanton
TERC, Cambridge, Massachusetts

Room L6/L7

55 Mastering Mental Math Number Facts . . . and Beyond

(Pre-K–5) Session

Mental math should be a major goal of all mathematics programs. It is used every day and is essential for high school math. I will use pictorial representations to show how to achieve that goal, beginning with strategies to master basic number facts for all four operations. These are then extended to examples beyond the facts.

Calvin Irons
Queensland University of Technology, Brisbane, Australia

Room 201/202

56

A Math-Minded School: 'Nfusing Number Sense and Mathematical Thinking

(3–5) Session

Explore ideas for transforming your school into a math-minded school. We will focus on claiming time for mathematics throughout the day by engaging students, directly or indirectly, in number sense—building tasks across content areas. We will look at ways to bring students' mathematical thinking out and let that affect our planning.

Jane Braddock Hunt

Hunt's Educational Consulting, Elizabethtown, Kentucky

Room 219

57**SE**

Improving Mathematical Problem Solving for Students Who Struggle

(6–8) Session

The Institute for Educational Sciences (IES) recently produced a practice guide on math problem solving in grades 4 to 8. Their practice guides contain thorough analyses of high-quality research as well as specific recommendations for practice. I will focus on the implications of the practice guide for special education.

John Woodward

University of Puget Sound, Tacoma, Washington

Cascade Ballroom A

58**LCR**

Radical, Irrational, Immeasurable, Yet Real

(6–12) Session

Although the ancient Greeks could determine precisely the length of a side of a square, they found the length of its diagonal to be “immeasurable.” I will use lessons from the history of mathematics to build the set of real numbers from the most basic systems (counting and whole numbers) to the real number system and beyond.

Amanda N. Davis

Indiana State University, Terre Haute

Room 110/111

59

Twenty-Five Things Students Must Know to Succeed in College Mathematics

(6–12) Session

Beginning with misunderstandings about operations, algebra, and trigonometry—even calculus, here are the twenty-five math concepts students *must* understand to be prepared to succeed in college mathematics.

Alan Zollman

Northern Illinois University, DeKalb

Room 218

60

Algebra: Beyond X, Y, and Z

(9–12) Session

Algebraic thinking is more than the study of the last three letters of the alphabet. Variables are an important part of mathematical processes, but so are quantitative reasoning, discourse, patterning, and more. The activities we share demonstrate connecting these mathematical habits and making connections with algebra and other topics.

Anthony Bokar

Ohio University, Athens

Room L14

61**LCR**

Making Sense of a Stunning Approximation to the Sine Function

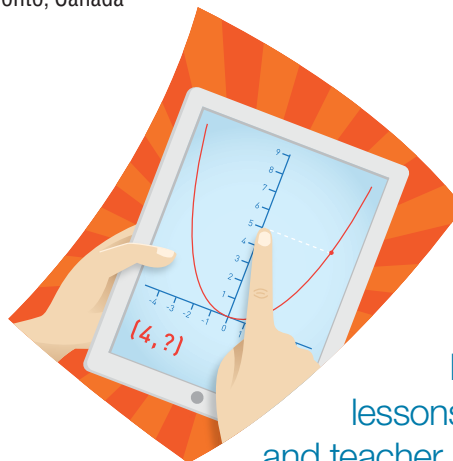
(9–12) Preservice and In-Service) Session

We will examine a little-known function that is a ratio of two quadratic functions. Discovered 1,400 years ago, it provides an exceptionally close approximation to the sine function. Using technology, we will see that the approximation is stunning. We will explore how to use the approximation as the basis of a reasoning and sense-making activity.

Ron Lancaster

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

Room 105



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

11:00 A.M.–12:00 P.M.

62 Incorporating 5 Practices for Orchestrating Productive Mathematics Discussions in Methods Courses

(Preservice and In-Service) Session

In their 2011 book *5 Practices for Orchestrating Productive Mathematics Discussions*, Smith and Stein describe how implementing five practices can improve students' understanding and connection making. I will describe how I incorporate these five practices into my secondary mathematics methods course.

Bethany A. Noblitt

Northern Kentucky University, Highland Heights

Sarah Kasten

Northern Kentucky University, Highland Heights

Room 106/107

62.1 Making Math Meaningful in the Middle Grades

(6–8) Exhibitor Workshop

Help your students gain a deeper understanding of mathematics with Math Innovations. This research-based program is accessible on iPads and tablets, as well as in print, and features interactive digital activities that support and extend learning. Learn how the curriculum addresses the Common Core standards and builds conceptual understanding of mathematics.

Kendall Hunt Publishing Company

Dubuque, Iowa

Room 102

62.2 CCSS Math Practices? Trust CPM's Twenty 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 Common Core State Standards (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

Room 103

12:30 P.M.–1:30 P.M.

63 Coaching through Technology: Using Digital Media to Reach More Teachers

(General Interest) Session

Instructional coaches must find ways to support many teachers even as resources diminish. Learn how to use video tutorials to provide individualized coaching support and model effective instructional strategies, including the Common Core State Standards for Mathematical Practice and the NCTM Process Standards. See video exemplars, testimonials, and demonstrations.

Delise Andrews

Lincoln Public Schools, Nebraska

Room 219

64 Formative to Summative Paths to Implementing and Validating CCSS

(General Interest) Session

Elementary and middle grade mathematics leaders, as you move toward full implementation of the Common Core State Standards (CCSS), what formative assessment strategies work? How do you know? How will formative assessment opportunities lead to and connect with PARCC (Partnership for the Assessment of Readiness for College and Careers) or Smarter Balanced assessments? Come help us figure this out—together!

Francis (Skip) Fennell

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

Beth Kobett

Stevenson University, Baltimore, Maryland

Jon Wray

Board of Directors, National Council of Teachers of Mathematics;
Howard County Public Schools, Ellicott City, Maryland

Cascade Ballroom B



65 **CC****The Standards for Mathematical Practice: Cherishing and Nurturing the Mathematics***(General Interest) Session*

The Common Core State Standards for Mathematical Practice are about “doing” mathematics—they are centered on solving problems, student discourse, and valuing mathematical reasoning processes. Without the practices, the Common Core is just a list. We will discuss examples of mathematical tasks from recent NCTM resources that exemplify the eight mathematical practices.

J. Michael Shaughnessy

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

*Cascade Ballroom C***66** **LCR****Build Number Sense with Visual Models and Games***(Pre-K–2) Session*

Be more efficient and selective about time devoted to number. Explore number relationships by using visual models, including dot cards, ten-frames, number lines, grids, and hundred charts. Leave with classroom-ready games and strategies, based on the Common Core State Standards, to help you enhance number sense and build confidence in your students.

Laura L. Choate

Fallbrook Union Elementary School District, California

*Room L14***67** **ML****Learning Trajectories for Place Value***(Pre-K–2) Session*

Optimal learning takes place when teachers understand learning trajectories or sequences for teaching mathematical concepts. This session presents learning trajectories for developing place value concepts. These trajectories focus on the characteristics of an efficient number system, such as symbols, base, and location.

Jo Ann Cady

University of Tennessee, Knoxville

Jami E. Garner

University of Tennessee, Knoxville

Theresa M Hopkins

University of Tennessee, Knoxville

*Room 105***68****Teaching the Tough Topics: Number Sense, Fact Fluency, and Fractions***(Pre-K–5) Session*

Is there a way to teach computational skills that develops number sense, leads to fact fluency, prepares students for word problems, and helps visual learners become abstract thinkers? Join *The Grapes of Math* author and Kakooma inventor, Greg Tang, as we apply model-drawing strategies to arithmetic. You’ll wonder why math isn’t always taught this way!

Greg Tang

Scholastic, New York, New York

*Cascade Ballroom A***69** **LCR EF****Rational Number Project: Initial Decimal Ideas and Student Thinking***(3–8) Session*

We will examine common errors surrounding decimal order, equivalence, addition, and subtraction and look at a new model to overcome these errors. We share lessons within the Rational Number Project (RNP) curriculum, examine student work, and describe the development of these lessons.

Debbie Monson

University of St. Thomas, Minneapolis, Minnesota

Kathleen Cramer

University of Minnesota, Minneapolis

*Room 209***70** **LCR EF****Ours Is to Reason Why When We Invert and Multiply***(6–8) Session*

Starting with pictorial representations and continuing with different operational strategies, we will build student understanding of dividing with fractions. Our lessons and activities will culminate with ideas to help students have a clear meaning of the general algorithm for division by a fraction.

Fred Dillon

Consultant, Strongsville, Ohio

Room 201/202

12:30 P.M.–1:30 P.M.

71
**Math Teachers' Circles:
 The Practice of Mathematics in
 Middle School**

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

Math Teachers' Circles (MTCs) are professional-development communities of middle school mathematics teachers and mathematicians focusing on the practice of mathematics. We examine key features of MTCs and discuss evidence of their effectiveness from national surveys, a multisite study of mathematical knowledge for teaching, and case studies.

Brianna Donaldson
 American Institute of Mathematics, Palo Alto, California

Room 106/107

72
**Keeping It Real: Teaching Math
 through Real-World Topics**

(6–12) Session

How long does it take to burn off a Big Mac? In basketball, should you ever foul at the buzzer? We'll explore a range of real-world lessons that teachers can immediately use to address the Common Core State Standards in fresh, new way, one that fosters a rigorous understanding of math while challenging students to think about the world more critically.

Karim Kai Ani
 Mathalicious, Alexandria, Virginia

Room L6/L7

73 
**Addressing the CCSSM Modeling
 Standards for High School**

(9–12) Session

What is mathematical modeling, and how it can be used in the classroom? I will present activities and investigations that focus on modeling as it relates to the Common Core State Standards for Mathematics (CCSSM) and explore context areas such as proportioning systems and forensic anthropology.

Nancy J. Crisler
 Washington University–St. Louis, Missouri

Room 110/111

74
**Using Web 2.0 Tools to Enhance
 Mathematical Thinking**

(Higher Education, Preservice and In-Service) Session

We will describe the use of Web 2.0 technology tools (Facebook, Twitter, blogs, wikis, and journals) to enhance the mathematical thinking and reflection of teacher candidates. We'll present strategies for increasing student-to-instructor communication, student-to-student communication, and reflective thinking.

Jennifer Carter McCain
 Morehead State University–Ashland, Kentucky

Sherry Lynn Stultz
 Morehead State University, Kentucky

April D. Miller
 Morehead State University, Kentucky

Room 218

74.1 
**Implementing the CCSS Integrated
 Pathway for High School
 Mathematics**

(9–12) Exhibitor Workshop

Review resources that support the Common Core Integrated Pathway for high school mathematics. Discuss strategies for the transition from traditional instruction to a problem-based model of teaching and learning. Explore activities that address the eight Mathematical Practices. Participants will receive sample materials to try in their classrooms.

Walch Education
 Portland, Maine

Room 102

12:30 P.M.–2:00 P.M.

75
Fun with Fluency

(Pre-K–2) Gallery Workshop

Play and take away a variety of games and activities targeting addition and subtraction fluency. These tiered activities are aligned with the Common Core fluency benchmarks K.OA.5, 1.OA.6, and 2.OA.2 and are part of the Kentucky Numeracy Project, a statewide initiative to offer training and resources for primary-level math instruction.

Cindy A. Aossey
 University of Kentucky, Lexington

Gwen Morgan
 Kentucky Valley Education Cooperative, Hazard

Room 109



76 Shuffling into Math

(Pre-K–2) Gallery Workshop

Play card, dice, and domino games that help your primary students achieve success in numeration, operations, place value, patterning, and graphing. Explore excellent take-home ideas, game boards, student samples, and more, to help you teach the Common Core State Standards. These activities are great for regular, English as a second language, Title I, and after-school programs.

Allison Riddle

Davis Unified School District, Salt Lake City, Utah

Room 212-217

77 Reading and Writing Math Poetry

(Pre-K–5) Gallery Workshop

Students can use poems as written manipulatives to conceptualize understanding of mathematical concepts. Get examples of poems useful in math instruction as well as guidance for writing math poems with students.

Lindsay N. Laurich

Augustana College, Sioux Falls, South Dakota

Room 112

78 Concept Games for Common Core Mathematical Practices

(3–5) Gallery Workshop

Games are tremendous motivators for students. Get actively involved in concept games that make student thinking visible.

Ted H. Hull

LCM: Leadership, Coaching, Mathematics, Pflugerville, Texas

Don S. Balka

Saint Mary's College, Notre Dame, Indiana

Ruth Harbin Miles

Mary Baldwin College, Staunton, Virginia;
Falmouth Elementary School, Stafford, Virginia

Room 108

79 **SE**

Rtl: Tier II Intervention Lessons for Elementary Students

(3–5) Gallery Workshop

I will focus on evidence-based instructional practices that can be used to teach students who demonstrate difficulties learning essential mathematical concepts and skills in the elementary grades. I'll provide intervention lessons and practical implementation tips along with handouts for classroom instruction.

Diane Pedrotty Bryant

The University of Texas at Austin

Room L15

80 Using Shared Story Reading in Mathematics for Students with Disabilities

(3–5) Gallery Workshop

Shared story reading is an excellent way to teach mathematics skills to elementary students with moderate to severe disabilities. We will discuss selecting appropriate books, adapting books, using concrete examples and systematic instruction to teach the mathematical concept, and incorporating assessments to inform instructional decisions.

Jeremy Todd Whitney

University of Louisville, Kentucky

Amy Lingo

University of Louisville, Kentucky

Ginevra Courtade

University of Louisville, Kentucky

Room 203-206

81 A Day at the Races

(6–8) Gallery Workshop

Play several types of “dice-race” games, and investigate the sample spaces, probability distributions, and strategies for crossing the finish line first in each game.

Thomas Evitts

Shippensburg University, Pennsylvania

Room 101

Hear what's new from Exhibitors—attend an **Exhibitor Workshop**. Look for the **ew** symbol throughout the program book.



12:30 P.M.–2:00 P.M.

82 Toothpicks, Towers, and Tiles, Oh My!

(6–8) Gallery Workshop

Compare and contrast various representations of patterns and relationships. We will describe, analyze, and generalize patterns represented graphically or numerically using words and symbolic rules and connect this to models made with toothpicks and square tiles.

Ryan Andrew Nivens

East Tennessee State University, Johnson City

Room 207/208

83 Mathematics of Climate Change: Causes, Effects, and Solutions

(6–12) Gallery Workshop

Embrace the Common Core State Standards and empower learners to use twenty-first century skills to solve twenty-first century problems via interdisciplinary, problem-based learning. Create meaningful learning experiences in mathematics by investigating causes and effects of and solutions to climate change. We'll share tools for fostering discourse and critical thinking.

Karen L. Lindebrekke

iBIO Institute EDUCATE Center, Chicago, Illinois

Melissa Wiegand

Red Bud High School, Illinois

Greg Wiegand

Red Bud High School, Illinois

Room 104

84 Rethinking Geometry: Why Transformations?

(6–12) Gallery Workshop

The high school Common Core State Standards call for students to understand congruence and similarity in terms of transformations. Why is this important? How does this change the content we teach in geometry, including how we think about proofs? We will work several examples chosen to help us think about answers to these questions.

Gail Burrill

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

Room L2/L3

85 Incorporate Colorful, Interactive 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 develop conceptual understanding and help students discover the math, investigate, and more. Teachers and students can interact with these using the free TI-Nspire Document Player and an iPad—see my favorite apps! Get more than two hundred free activities.

Tom Reardon

Youngstown State University, Ohio

Room 210/211

86 Let Us Count the Ways: Poems 4 Numbers and Operations

(Preservice and In-Service) Gallery Workshop

Explore a variety of math poems about numbers and operations, as well as other related concepts in the Common Core State Standards. You will compose at least one poem, solve at least one poem problem (which is a story problem set to verse), and discuss how to implement and assess such an instructional strategy.

John E. Hammett III

Saint Peter's University, Jersey City, New Jersey

Room L4/L5

2:00 P.M.–3:00 P.M.

87 Game Changers: Rethinking the Way We Teach Math

(General Interest) Session

What should effective and innovative math instruction look like, and how can teachers create ideal learning experiences for all students? This discussion, led by NCTM board member Jon Wray, features the perspectives of three educators whose work is transforming curriculum design and delivery and changing the way students think about mathematics.

Dan Meyer

Stanford University, California

Karim Kai Ani

Mathalicious, Alexandria, Virginia

Eric Westendorf

LearnZillion, Washington, D.C.

Jon Wray

Board of Directors, National Council of Teachers of Mathematics;
Howard County Public Schools, Ellicott City, Maryland

Cascade Ballroom B



88 **ML** Learning Progressions in Mathematics: Linking Teaching, Assessment, and Research

(General Interest) Session

The Cognition Based Assessment (CBA) is an integrated system of research-based learning progressions, assessment tasks, and instructional materials for number and geometry in grades 1–8. This project, funded by the National Science Foundation, was tested with students and teachers. I will describe how such learning progressions can be used for effective teaching and assessment.

Michael T. Battista
Ohio State University, Columbus

Cascade Ballroom C

89 SMART 3-D Tools: Digital 3-D Images in Students' Hands

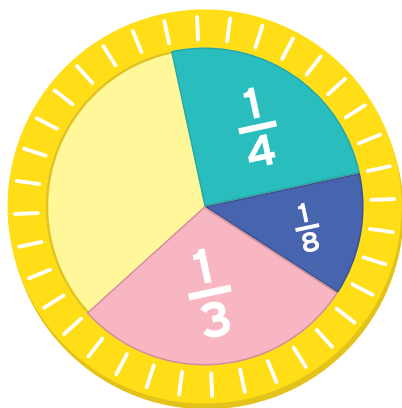
(General Interest) Session

Discover how easy it is to integrate 3-D content from SMART Exchange or Google 3D Warehouse into your SMART Notebook lessons. Allow your students to tactilely explore and manipulate digital 3-D content, using a cube under the document camera, directly from the SMART Board or from the computer.

Amy L. Colucci
Jefferson County Public Schools, Louisville, Kentucky

Erin Coyle
Jefferson County Public Schools, Louisville, Kentucky

Room 218



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

90 **LOR** Enacting Numeracy for At-Risk Learners: Suggestions from Neuroscience Research

(Pre-K–2) Session

We will discuss implications and ideas from recent neuroscience research that suggest (1) instruction should focus on sensorimotor interaction; (2) sensorimotor experience increases transfer and application of previous concepts; and (3) ignoring the importance of gestures and hand movement risks undermining conceptual understanding of mathematics.

Kathy Shaffrey Schoengrund
Naperville Community School District 203, Illinois

Frank K. Lester
Indiana University, Bloomington

Room L6/L7

91 **ML** Creating Powerful Learning Environments Based on Learning Trajectories

(Pre-K–5, Research) Session

We will discuss the role of learning trajectories (LTs) in mathematics education as both research and teaching tools. Specifically, we will address the following questions: What is a LT? Do you have to be a researcher to use an LT? What questions can we use LTs to answer about instruction, assessment, or mathematical learning?

Jeffrey E. Barrett
Illinois State, Normal

Room 219

92 **SE** Guided Math Groups: A Strategy for Response to Intervention

(Pre-K–5) Session

Analyze the potential of guided math groups to be a powerful response to intervention (RtI) strategy using examples from real practice, both video and written. We'll also analyze the components involved in planning and implementing these sessions to address students' individual needs and build their mathematical understanding.

Judy Storeygard
TERC, Cambridge, Massachusetts

Room 209

93 Kentucky Numeracy Project Intervention Guide

(Pre-K–5) Session

Take a tour of the dynamic, online Kentucky Numeracy Project (KNP) Intervention Guide, containing more than three hundred proven numeracy development strategies for differentiated instruction and formative assessment in alignment with the Common Core State Standards and the Fluency Benchmarks for RtI. View lessons and resources to use with both classroom students and RtI students.

Mary H. Hodges

Kentucky Center for Mathematics, Murray

Barbara Jacobs

Kentucky Center for Mathematics, Louisville

Room 110/111

94 Building a Solid Foundation: The Mathematical Practices in Daily Instruction

(3–5) Session

How is it possible to help all students understand mathematics deeply and meet the high expectations of the Common Core State Standards? Learn how I use the Standards for Mathematical Practice in my elementary classroom to develop students' understanding of concepts that are too often taught by rote. I'll share examples, student work, and lesson plans.

Laura Parn

Peine Ridge Elementary, Wentzville, Missouri

Room 105

95 Engaging Activities + Effective Instructional Strategies = Numerically Nimble Students

(3–5) Session

Improve students' numeric competence with strategies that promote greater sense making and participation. Discover more effective ways to differentiate instruction and efficiently implement the Common Core State Standards. Generous handout includes engaging activities to enhance mathematical reasoning as students improve their number sense and computation skills.

Leigh Childs

San Diego County Office of Education, California

Room L14

96 

Operations with Rational Numbers: Not Just the Rules

(3–8) Session

We will investigate how the properties of the operations apply to all rational numbers and then strengthen our understanding of the properties of the operations by exploring the similarities and differences between operations with whole numbers and operations with fractions, decimals, and integers by examining multiple examples.

Terry W. Parkey

Partnership Institute for Math and Science Education Reform (PIMSER), Lexington, Kentucky

Gloria Beswick

Partnership Institute for Mathematics and Science Education Reform (PIMSER), Louisville, Kentucky

Cascade Ballroom A

97 

Improve Students' Number Sense while Supporting Algebra Skills and Concepts

(9–12) Session

We will look at ways to use the number line to strengthen number sense while supporting improvements in algebraic thinking and skills. The number line provides a concrete setting in which to practice algebraic skills and a way for students to know when they are correct. For example, consider a number line with coordinates in terms of some unknown x .

Jim Moore

P12 Outreach Unit PIMSER, University of Kentucky, Lexington

Room 201/202

98 

Mathematical Modeling: Connecting the CCSS Mathematical Practices and Content Expectations

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

As a Common Core State Standard (CCSS) content standard and a standard for mathematical practice, mathematical modeling offers a rich opportunity to connect the mathematical content of the high school conceptual categories to related mathematical practices. We will examine several illustrative modeling tasks, highlighting the strategic use of NCTM's Core Math Tools.

Christian R. Hirsch

Western Michigan University, Kalamazoo

Room 106/107

2:00 P.M.–3:00 P.M.

98.1 Making Elementary Math Journals Fold-tastic!

(Pre-K–5) Exhibitor Workshop

Cut, fold, and more, in this hands-on workshop as you transform basic classroom materials into Notebook Foldables that are sure to make your student math journals fold-tastic. Depart with a mini-composition book made on site that is filled with immediately usable ideas.

Dinah-Might Adventures
San Antonio, Texas

Room 102

98.2 Math Digital Learning

(3–8) Exhibitor Workshop

Think Through Math (TTM) provides unprecedented differentiation with a distinctive and powerful blend of highly adaptive instruction and just-in-time support. By providing adaptive lesson pathways that are uniquely personalized, TTM deepens understanding of critical mathematical concepts and improves higher-order thinking and problem-solving skills.

Think Through Math
Pittsburgh, Pennsylvania

Room 103

2:30 P.M.–4:00 P.M.

99 Strictly Structuring : A Strong Basis for Computational Fluency

(Pre-K–2) Gallery Workshop

Explore structuring, the secret to preparing students for the rigor of being computationally fluent in addition and subtraction as required by the Common Core State Standards. Experience tasks that support development of strategies other than count by one. Leave with research-based materials and technological resources proven to enhance learning.

Heather Benton
Franklin County Public Schools, Frankfort, Kentucky

Linda Jewell
Kentucky State University, Frankfort

Room 210/211

100 Using Numeracy Tools in Classroom Instruction

(Pre-K–2) Gallery Workshop

Educators often have difficulty thinking of ways to integrate numeracy tools vital to a child's mathematical development into instruction. Explore numeracy tools for use with whole-group and small-group instruction in progression through the Common Core State Standards (0A.1) of K–grade 2.

Kimberly J. Elam
Rowan County Schools, Morehead, Kentucky

Room 212-217

101 Promoting Early Algebra in Elementary Grades with Hands-On Activities

(3–5) Gallery Workshop

The playful spirit of children does not have to end as the summer fades. Children can remain just as active and engaged with mathematical activities throughout the entire year. We will provide a variety of games and activities designed to help children develop underlying concepts necessary for success in algebra.

Mike Maesch
Michigan City Area Schools, Indiana

David Feikes
Purdue University North Central, Westville, Indiana

Jeff Edinger
Michigan City Area Schools, Indiana

Room 207/208

102 The Whole Truth: Building Conceptual Knowledge of Whole Number Operations

(3–5) Gallery Workshop

We'll share research-based strategies that help students develop a conceptual understanding of what it means to multiply and divide whole numbers. You will engage in hands-on activities, based on the Common Core State Standards, that are easily incorporated into your classroom and address the needs of all learners.

Kristin E. Harbour
University of Louisville, Kentucky

Lindsay Hughes
University of Louisville, Kentucky

Chris A. Sweigart
University of Louisville, Kentucky

Room 101

2:30 P.M.–4:00 P.M.

103 Beyond Cookies: Understanding Various Division Models

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

Through an interactive approach, we will build teachers' understanding of division, emphasizing partitive and measurement models. We will offer a rationale for examining division, describe the models, and provide an opportunity to increase understanding of the models. We will also present strategies for writing high-quality division story problems.

Robin L. Magruder
University of Kentucky, Lexington

Cindy Jong
University of Kentucky, Lexington

Room 112

104 Leveraging Dynamic Spreadsheets to Focus on Algebraic Thinking and Reasoning

(6–8) Gallery Workshop

Learn how the design of dynamic spreadsheets provides learners with algebraic reasoning tools for exploring independent and dependent variables in problem situations. Examine mathematics problems used for scaffolding learning as students gain skills with the use of spreadsheets as algebraic thinking and reasoning tools.

Margaret L. Niess
Oregon State University, Corvallis

Room L4/L5

105 NASA: Distance–Rate–Time Mathematics in Air Traffic Control

(6–8) Gallery Workshop

NASA Smart Skies: Predict and solve real-world air traffic conflicts using a hands-on experiment, Web-based simulator, print-based instructional materials, and mobile app. Students apply problem-solving and proportional-reasoning skills as they explore distance–rate–time relationships at the algebra and prealgebra levels. Materials are free online.

Rebecca Green
NASA, Moffett Field, California

Gregory Condon
NASA, Moffett Field, California

Room L2/L3

106 Connecting All Learners to Real Mathematics: Walking through Algebra and Geometry

(6–12) Gallery Workshop

Experience lessons incorporating a strategy called the algebra walk. This procedure has students completing concrete, kinesthetic activities to introduce and support the development of mathematical concepts from middle school through high school. I will also make connections to technology using the TI-84 and Nspire CAS.

Jim Austin
Whitefield Academy, Louisville, Kentucky

Room 108

107 Interesting Ideas, Manipulatives, and Engaging Activities for Teaching Geometry Topics

(6–12) Gallery Workshop

Use hinged mirrors, rubber bands, patty paper, paper plates, and other manipulatives, as well as interesting problems, to explore, develop, and apply geometry concepts and review geometric vocabulary. Topics include similarity, triangle heights, transformations, central angles, polygons, angle relationships, proportions, and more!

Erin Murphy Schneider
Jefferson County Public Schools, Louisville, Kentucky

Room L15

108 Tapping the Mathematical Potential of Students Who Struggle: Instructional Strategies

(6–12) Gallery Workshop

Do you have trouble reaching students who struggle in mathematics? In today's classrooms, mathematical knowledge is not enough. Teachers must find creative ways to unlock students' potential. Engage in classroom-ready, research-based strategies and hands-on activities to help tap the potential of students who struggle.

Christa Jackson
University of Kentucky, Lexington

Margaret Mohr-Schroeder
University of Kentucky, Lexington

Craig Schroeder
Fayette County Public Schools, Lexington, Kentucky

Room 109



2:30 P.M.–4:00 P.M.

109 Presidential Portraits: Exploring Data Analysis Kinesthetically

(Preservice and In-Service) Gallery Workshop

How old were our presidents when they took office? Answer this and other questions using kinesthetic methods and related innovative techniques to explore data collections that describe our nation's chief executives. Highlights include constructing a human histogram and acting out the calculation of several measures of center.

John E. Hammett III
Saint Peter's University, Jersey City, New Jersey

Room 104

110 When Traditional Won't Do: Engaging African American Students in Mathematics

(Preservice and In-Service) Gallery Workshop

Explore practices that often cause students to disengage from mathematics. Explore and use strategies to engage African American students as creators and learners of mathematics.

Crystal Hill Morton
IUPUI, Indianapolis, Indiana

Room 203-206

3:30 P.M.–4:30 P.M.

111 Data + Analyses = Good Decision Making

(General Interest) Session

Using statistical-analysis methods provides evidence for math leaders' and coaches' decisions. We will discuss common methods used in schools. Groups will do root-cause analysis and discuss results and how to create an improvement plan based on those results.

Janet M. Herrelko
University of Dayton, Ohio

Room 219

112 

Implementing the Mathematical Practices: Does Your Classroom Look Like This?

(General Interest) Session

Join us for sample lessons and examples of student work and discourse, all of which provide classroom evidence that demonstrate students' use of the Common Core State Standards for Mathematical Practice in action. We will make recommendations and share participant input on the challenge, "How do I support and expand the mathematical behaviors of my students?"

Henry S. Kepner
Past President, National Council of Teachers of Mathematics;
University of Wisconsin–Milwaukee

Fred Dillon
Consultant, Strongsville, Ohio

Cascade Ballroom C

113 

Learn↔Reflect Reflection Session

(General Interest) Session

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

Erin Coyle
Whitney Young Elementary, Louisville, Kentucky

Robin R. Hill
Kentucky Department of Education, Frankfort

Tim Truitt
Jefferson County Public Schools, Louisville, Kentucky

Jamie-Marie Wilder
Lincoln County Middle School, Stanford, Kentucky

Room 209

Thursday

A big thank-you
to our exhibitors, sponsors,
volunteers, and speakers!

3:30 P.M.–4:30 P.M.

114 These Are Not Your Parents' LEGO Bricks!

(Pre-K–5) Session

Increase engagement in the classroom and infuse math and science standards using We-Do LEGO robots. Apply science, technology, engineering, and mathematics (STEM) concepts to design, build, and program robots, as well as receive ideas and activities to extend learning across the curriculum.

Erin Coyle

Jefferson County Public Schools, Louisville, Kentucky

Amy L. Colucci

Jefferson County Public Schools, Louisville, Kentucky

Room L14

115 Give Puzzles a Starring Role in Your Math Class

(3–5) Session

Make puzzles the main course, not the dessert, in your mathematics class as students develop problem-solving expertise to counter a brittle and rule-bound perception of mathematics. Learn about interactive and engaging Sketchpad and iPad puzzles that focus on an assortment of topics, including fractions, decimals, factors, and early algebra.

Daniel Scher

KCP Technologies, Emeryville, California

Scott Steketee

KCP Technologies, Emeryville, California

Cascade Ballroom A

116 Turnonccmath.net: Learning Trajectories for CCSSM

(3–8) Session

Describing students' conceptual growth over time and supporting the high expectations of the Common Core State Standards for Mathematics (CCSSM), Turnonccmath.net maps the K–8 CCSSM into learning trajectories. We demonstrate how learning trajectories support interpreting CCSSM: resources that unpack the standards coherently and support cross-grade instructional planning and collaboration.

Alan Maloney

North Carolina State University, Raleigh

Room L6/L7

117 Flipping Out with the iPad

(6–12) Session

Come explore free and inexpensive apps on the iPad that can be used to create video instruction for a flipped classroom model or remediation opportunities for the middle school classroom. Learn how to develop and archive these resources for easy student access. I'll provide online tutorials of the session material.

Virginia A. Fraser

Indiana University Southeast, New Albany

Room 110/111

118 Standard(s) Statistics: Engaging with CCSS Mathematical Practices and Statistical Content

(6–12) Session

Explore middle and high school Common Core State Standards (CCSS) content and practice standards for statistics using hands-on and cognitively demanding tasks. Through a series of data-driven activities exploring center, variability, distribution, and informal inference, learn ways to engage students in answering statistical questions through statistical problem solving.

Susan A. Peters

University of Louisville, Kentucky

Jonathan D. Watkins

University of Louisville, Kentucky

Room 105

119 Critical Thinking in Algebra 1 Classrooms: Research Explored

(9–12, Research) Session

Critical thinking in algebra 1 classrooms enables students to make stronger connections between abstract mathematics concepts and real-world experiences. I will examine a literature-based approach to evaluating the connections between critical thinking and algebra 1.

Holly S. Meyer

University of Texas, San Antonio

Room 218



120 Linear and Exponential Models

(9–12) Session

The Common Core State Standards (CCSS) require that students “distinguish between situations that can be modeled with linear functions and with exponential functions.” We will explore ways to master and use these two models. The CCSS mathematical practice addressing modeling is obviously a big part of this journey; however, we will also explore other practice standards.

Ann Booth
Making Math Magic, Lancaster, Kentucky

Vonda Stamm
Making Math Magic, Lancaster, Kentucky

Room 106/107

121 The Mathematics of Angry Birds

(9–12) Session

Angry Birds is an engaging game, but also a rich source of mathematical learning. We will use it to explore initial velocities, angles, parametric equations, tangents, and regression. We will be using screen captures and video tracking to actually plot and model paths.

Ismael Zamora
Hinsdale South High School, Darien, Illinois

John J. Diehl
Retired, Hinsdale Central High School, Illinois

Cascade Ballroom B

122 New Standards for Preparing Future Mathematics Teachers

(Higher Education, Preservice and In-Service) Session

NCTM has revised the standards for NCATE’s program review process. Examine new standards, content addenda, and rubrics for the preparation of secondary, middle-grades, and elementary math specialists. Explore how these changes will affect the review process leading to national recognition of programs by NCATE and CAEP.

Judy O’Neal
National Council of Teachers of Mathematics, Reston, Virginia

Room 201/202

122.1 ew IXL: Changing the Way Math Is Practiced!

(General Interest) Exhibitor Workshop

Come learn how IXL is using web-based practice to change the way students and teachers approach math! Aligned to the Common Core State Standards, IXL engages students with dynamic content, interactive questions, and virtual awards. IXL’s advanced reporting suite provides powerful tools for teachers to monitor students’ progress.

IXL Learning
San Mateo, California

Room 103



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TEACHERS OF MATHEMATICS

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HIGHLIGHTS

- New Members and First Timers' Orientation (Presentation 123)
- NCTM President Session (Presentation 125)
- New and Preservice Teacher's Workshop (Presentation 160)
- NCTM Board Hot Topic: Embracing the Common Core (Presentation 173)

ICON

PRESENTATION NUMBERS

EW Exhibitor Workshops	135.1, 135.2, 159.1, 159.2, 183.1, 183.2, 195.1, 195.2, 219.1
DM Developing Mathematical Promise, Talent, Creativity, and Giftedness	133, 149, 161, 177, 191, 200, 215, 225
EF Exploring Fractions	131, 139, 165, 186, 199
ELL English Language Learners	124, 164, 178, 189, 214, 216, 241
SE Special Education	203



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REGISTRATION HOURS

7:00 a.m.–3:00 p.m.

EXHIBIT AND NETWORKING LOUNGE HOURS

8:00 a.m.–4:00 p.m.

BOOKSTORE AND MEMBER SHOWCASE HOURS

8:00 a.m.–4:00 p.m.

FIRE CODE

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.

123 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.

Laura Parn

Peine Ridge Elem, Wentzville, Virginia

Wade White

Retired, Dallas S.D., Oregon

Karen Graham

Board of Directors, National Council of Teachers of Mathematics; University of New Hampshire

Room L6/L7

124 An Equation for Success with English Language Learners

(General Interest) Session

We will explore a collection of key instructional practices that result in high achievement for all students, including those who are culturally and linguistically diverse. You'll also learn which practices to avoid.

Jennifer M. Bay-Williams

University of Louisville, Kentucky

Cascade Ballroom B

125 NCTM President Session: It's Raining Rich Problems!

(General Interest) Session

A rich problem is the umbrella for incorporating standards of practice with mathematics content in the elementary grades. Here are some practical suggests to turn this vision into practice.

Linda M. Gojak

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

Room L6/L7

126 Effects of Inquiry-Based Pre-K Curricula on Children's Knowledge of Mathematics

(Pre-K–2) Session

I will describe a prekindergarten math and science curriculum, the professional development of Head Start teachers, prekindergarten children's outcomes, and findings from the first four years of data collection. I will also share suggestions for helping teachers become successful facilitators of math and science activities.

David L. Brown

Texas A&M University–Commerce

Room 105

127 Mathematical Language: The Core for Mastering Concepts

(Pre-K–2) Session

Helping children develop deep understanding of mathematical concepts from all strands requires teachers to appropriately model the language of mathematics. Language can be the bridge for support by using stories, concrete resources, and pictorial representation. Explore language stages to facilitate meaning making for mathematical concepts.

Rosemary Reuille Irons

Queensland University of Technology, Brisbane, Australia

Room 110/111

128 Connecting Mathematics and Literacy

(Pre-K–5) Session

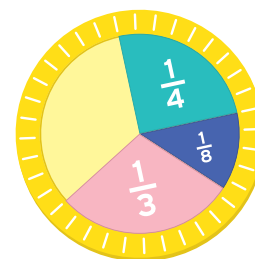
The content and strategies of literacy learning provide a remarkable vehicle for mathematics learning. Learn how students can apply visualizing, predicting, and other familiar comprehension strategies to creating and solving math problems. Leave with a list of children's literature to assist you to authentically embed essential math concepts.

Deborah White

Dallas School District, Oregon

Room 218

Mingle, explore,
and learn in the
Exhibit Hall and
**Networking
Lounge!**



129 What's Uncommon about the Common Core?

(3–5) Session

How are the Common Core State Standards for Mathematics (CCSSM) different from the objectives that I'm used to teaching? How do the standards' expectations affect how I think about teaching? What do I do differently? If you are asking these questions, then join us as we engage in tasks designed to highlight the mathematical and instructional differences needed for CCSSM.

Shannon Harmon

Middle Tennessee State University, Murfreesboro

Angela T. Barlow

Middle Tennessee State University, Murfreesboro

Room 209

130 Teaching Rational Numbers to the iGeneration

(3–8) Session

Let's examine how to engage and motivate the iGeneration in teaching about rational numbers. The Common Core State Standards clearly focus on understanding rational numbers. Receive strategies, videos, and assessment tools that can lead to building better facility with basic skills and rational numbers.

Eric Milou

Rowan University, Glassboro, New Jersey

Cascade Ballroom C

131 **EF** Differentiating Instruction for Fraction Division

(6–8) Session

Solve fraction division problems using a measurement model of division in this problem-solving session. I will discuss how different problems can be modified to differentiate instruction for students. I'll also introduce a free downloadable computer tool that can be used in classrooms.

Erik S. Tillema

Indiana University–Purdue University, Indianapolis

Room L14

132 Expressing Regularity in Repeated Reasoning with CCSSM

(6–12) Session

The mathematical practices are an essential component of the Common Core State Standards for Mathematics (CCSSM), but implementing them, including “look for and express regularity in repeated reasoning,” can be enigmatic. We will discuss strategies for employing this practice when teaching exponential functions, right triangles, complex numbers, and formula derivation.

Kelly W. Edenfield

Carnegie Learning, Pittsburgh, Pennsylvania

Room 106/107

133 **DM** Integrated Assessment and Instruction

(6–12) Session

Creativity and flexibility are essential when working with gifted students in mathematics. Integrating assessment and instruction is a meaningful way to address their needs. Blended activities, such as open-ended projects, encourage students to work beyond grade-level expectations. Come see examples and begin to develop your own material.

Heather Gramberg Carmody

Park Tudor School, Indianapolis, Indiana

Room 201/202

134 Videos to Engage Students in the Standards for Mathematical Practice

(6–12) Session

We will view short videos that can be used effectively to build student understanding and serve to address the Standards for Mathematical Practice that must be assessed as part of the Common Core. After viewing each video, we will discuss which practices fit and share ideas about teaching and learning mathematics with the video.

Ed Dickey

University of South Carolina, Columbia

Cascade Ballroom A



Download Speaker Handouts!

Visit www.nctm.org/plan to access available presentation handouts.

8:00 A.M.–9:00 A.M.

135 Understanding Preservice Teachers' Conceptions about Teaching Mathematics for Social Justice

(Higher Education, Preservice and In-Service, Research)
Session

We present research on elementary school preservice teachers' conceptions of social justice and mathematics across three universities. We discuss ways to inform instruction with research and ideas for integrating social justice with mathematics in methods courses.

Cindy Jong

University of Kentucky, Lexington

Christa Jackson

University of Kentucky, Lexington

Maranda L. Miller

University of Kentucky, Lexington

Room 219

135.1 Meeting the Practice Standards Using Models from Math in Context®

(3–8) Exhibitor Workshop

The CCSSM Practice Standards ask students to “model with mathematics.” Students are expected to identify quantities and map relationships 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 receive a free Number Tools® workbook.

Britannica Digital Learning

Chicago, Illinois

Room 102

135.2 Pearson's CMP3: Get Connected!

(6–8) Exhibitor Workshop

Experience CMP3, the newest edition of the inquiry-based Connected Mathematics Project. See new updated Common Core-aligned content and easy-to-use mobile tools. Find out how twenty-first-century social-networking technology connects CMP3 teachers and how students benefit from interactive digital student pages that allow for instant sharing.

Pearson

Upper Saddle River, New Jersey

Room 103

8:30 A.M.–10:00 A.M.

136 Kindergarten–Grade 2 Games That Make You Think

(Pre-K–2) Gallery Workshop

Play newly developed games that target the K–grade 2 Common Core State Standards for number and operations and foster use of the mathematical practices. Differentiate instruction to support and challenge the full range of learners within the framework of a game. Follow-up class discussion questions encourage deep processing.

Kathleen Barta

Teacher to Teacher Publications, Lake Oswego, Oregon

Gail E. Gerdemann

Oregon State University, Corvallis

Room 104

137 Uncovering and Addressing Student Misconceptions by Using Formative Assessment Lessons

(Pre-K–2) Gallery Workshop

These classroom challenges rely on feedback and effective questioning from the teacher, employ cooperative learning strategies, activate students as learning resources for one another, and encourage orchestrated group discussions. The lessons help teachers and students work effectively together to move each student's learning forward.

Renee' Yates

Kentucky Department of Education, Frankfort

Charles Rutledge

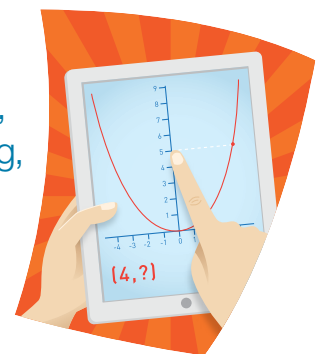
Kentucky Department of Education, Frankfort

Katrina Slone

Kentucky Department of Education, Frankfort

Room 203-206

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138

Connections: Progressions, Problem Solving, and Practices in Implementing CCSSM

(Pre-K–5) Gallery Workshop

Explore activities from the measurement and data standards of the Common Core State Standards for Mathematics (CCSSM) while discovering connections with other domains. See examples of connections with other content areas in the context of rich, engaging mathematical experiences.

Tim W. Sears
Kentucky Department of Education, Frankfort

Ellen F. Sears
Kentucky Department of Education, Frankfort

Room 101

139

Listening to Students' Thinking about Fractions

(3–5) Gallery Workshop

As teachers, we usually hear students, but we don't necessarily listen carefully to their thinking. Using elementary school students' artifacts generated from work with fraction contexts, we will develop our abilities to listen to and explore students' thinking.

M. Lynn Breyfogle
Bucknell University, Lewisburg, Pennsylvania

Room 210/211

140

More Than One Right Answer: Alternative Strategies for Student Success

(3–5) Gallery Workshop

As we gain expertise in instructional strategies and how kids learn, we can teach our students multiple ways to solve a problem. While there may indeed be a "right" answer arrived at by traditional means, there can be many ways to find it. I demonstrate a variety of methods to help students learn how to problem solve.

Tammy L. Wall
Kentucky Educational Development Corporation, Ashland

Room L4/L5

141

Teaching Fractions to Develop Proportional Reasoning

(3–5) Gallery Workshop

I will model best practices using area, set, and number line models of fractions with hands-on materials that are easy to assess. Come sing, dance, play games, and learn how to make this difficult area of mathematics less challenging and more meaningful for all students! Be prepared to learn new strategies.

Kim P. Sutton
Consultant, Arcata, California

Room L15

142

The Importance of Context in Developing Number Sense

(6–8) Gallery Workshop

The Common Core State Standards emphasize the use of context in developing a deep understanding of numbers and operations. Learn how to use free online tools that support both context and modeling of story problems, as well as instructional strategies. We will share data on how context improves student understanding of the meaning of operations.

Connie Laughlin
University of Wisconsin Milwaukee

Melissa Hedges
Mequon-Thiensville School District, Wisconsin

Room 108

143

Making Math Out of March Madness

(6–12) Gallery Workshop

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

Jennifer Axley
Blount County Schools, Maryville, Tennessee

Donna Talley Russell
Blount County Schools, Maryville, Tennessee

Room 207/208

8:30 A.M.–10:00 A.M.

144 NASA's Supernova Mathematics

(6–12) Gallery Workshop

Find out what a flip book and a supernova have in common. Then, apply your knowledge to solve a supernova mystery. Take activities back to your classroom to help teach your students about proportional reasoning, linear models, measurement, and interdisciplinary connections. Free NASA materials!

Janet Lynne Moore

NASA; Illinois State University, Bloomington, Illinois

Room 212-217

145 High School Algebra and the Practice Standards

(9–12) Gallery Workshop

Good teachers use the mathematical practices of the Common Core State Standards for Mathematics (CCSSM); however, CCSSM demands more. A great teacher does not just use the practice standards but creates a classroom where the students must engage in them. You will engage in interactive algebra activities that require kids to become the mathematically proficient students defined in the standards.

Heather Brown

Illinois State Board of Education; Statewide System of Support/PDA, Joliet

Alanna Mertens

Chicago Public Schools, Illinois

Room 112

146 Formative Assessment Lessons for CCSS Content and Practices

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

Participate in formative assessment lessons designed by the Mathematics Assessment Project (MAP) team to assess and develop students' integrated understanding of the high school Common Core State Standards (CCSS) content and ability to engage in the mathematical practices. We will share teachers guides and an open-source website with an additional forty high school lessons.

Mary K. Bouck

University of California, Berkeley

Julie Faulkner

Retired, Coordinator and Principal, Traverse City, Michigan

Room 109

147 Mathematical Practice: Eight Exemplars That Enhance Understanding

(Preservice and In-Service) Gallery Workshop

Explore the eight Standards for Mathematical Practice found in the Common Core State Standards. Engage in exemplary activities and take-back examples to enhance understanding, provide meaning in context, and demonstrate the power of these practices as students are learning mathematics.

Carolyn M. Moore

McGraw-Hill, Columbus, Ohio

Room L2/L3

9:30 A.M.–10:30 A.M.

148 The Art of Teaching Mathematics!

(General Interest) Session

You will be challenged to think of student motivation not as a cause but as a consequence of achievement. The “art” of teaching mathematics lies within a keen understanding of your own disposition toward a fixed or growth mindset about mathematics learning and effective lesson design tools.

Timothy Kanold

Loyola University, Chicago, Illinois

Cascade Ballroom B

149 The Common Core State Standards for Gifted and Advanced Learners

(General Interest) Session

The Common Core State Standards may be necessary, but are they sufficient to develop the mathematical inspiration and innovation needed to challenge and motivate gifted and promising mathematics students? Come explore proven strategies for creating advanced, passionate students who develop and collaborate on complex, multiple, and original solutions and problems.

Linda Sheffield

Northern Kentucky University, Highland Heights

Cascade Ballroom C

150

Look before You Leap: Using Children's Thinking to Target Instruction

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

What do children's responses tell us about their understanding of mathematics? Oftentimes, we assume a correct answer indicates underlying conceptual knowledge. We will focus on learning to attend to nuances of children's words and actions to target instruction to children's individual needs.

Edna O. Schack

Morehead State University, Kentucky

Molly H. Fisher

University of Kentucky, Lexington

Jonathan N. Thomas

Northern Kentucky University/Kentucky Center for
Mathematics, Highland Heights

Room 106/107

151

From STEM to STEAM: Arts and Creativity in Mathematics

(Pre-K–5) Session

Young students need to be excited about math. They need to be fully engaged in creating math models, making up math stories, doodling and sketching, and using multiple means of expression to think about math. Let's work together to get the arts—artistic expression and creative thinking—into our everyday math instruction.

Stuart J. Murphy

Independent Author, Boston, Massachusetts

Cascade Ballroom A

152

Fractions Don't Have to Be Frustrating!

(3–5) Session

How can I help my students understand fractions? Come see how using manipulatives can help your students better understand fraction concepts. Hear why manipulatives can be a powerful tool in developing students' understanding of fractions. I will share ideas for equivalence, ordering, addition, and subtraction of fractions.

Kevin Dykema

Mattawan Middle School, Michigan

Room 209

153

Number Lines: A Gift from CCSSM

(3–5) Session

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

Kit Norris

Educational Consultant, Southborough, Massachusetts

Room L6/L7

154

High-Leverage Actions Ensure All Your Students Are Common Core Ready

(6–12) Session

What are the most important actions to take now to ensure that all your students are prepared for the 2015 Common Core State Standards (CCSS) assessments? I will highlight key content and mathematical practices that students need to know and demonstrate, along with research-based instruction and assessment practices and strategies to build students' proficiency in both.

Diane J. Briars

President Elect, National Council of Teachers of Mathematics;
Consultant, Pittsburgh, Pennsylvania

Room 105

155

Strategies for Infusing Instruction with Mathematical Practices

(6–12) Session

What are tangible ways to engage students in the Common Core State Standards for Mathematical Practice while still covering required content? I will present research-based strategies that can be used in secondary mathematics classrooms to deepen students' understanding and help them become mathematical thinkers.

Samuel Otten

University of Missouri, Columbia

Room 201/202

156 Understanding and Addressing Algebra, Geometry, Rational Number, and Probability Misconceptions

(6–12, Research) Session

We will report on research to describe underlying causes and present recommendations for addressing mathematics misconceptions by outlining and incorporating an underlying structure that links rational number, algebra, geometry, and probability misconceptions. We will also address connections to the Common Core State Standards for Mathematics student learning objectives.

Christopher R. Rakes

University of Maryland, Baltimore County

Robert N. Ronau

University of Louisville, Kentucky

Room 218

157 Computer Gaming: Mathematics Applications to Engage Students

(9–12) Higher Education) Session

Using Matlab, we will create computer games that include animation, audio, and video, emphasizing hands-on experiential learning opportunities for students. Explore cross-disciplinary problem-solving methods that combine mathematics and technology.

Susan G. Helser

Mott Community College, Flint, Michigan

Room 219

158 Bringing Algebra, Functions, and Mathematical Practices to Life through Technology

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

Core Math Tools offer a convenient way to bring technology into students' experiences inside and outside the classroom. I will provide examples of specific ways to use the online tools to address the Common Core State Standards for Mathematics (CCSSM) for algebra, functions, and the mathematical practices through small tasks and major projects.

Rose Mary Zbiek

The Pennsylvania State University, University Park

Room L14

159 Preparing for Your Institution's NCATE Program Review Using New Standards

(Higher Education, Preservice and In-Service) Session

Get the latest information on preparing mathematics education program reports for NCATE accreditation based on the 2012 NCTM NCATE Standards. Learn how to navigate the NCATE/CAEP program review process and prepare required documents under the new standards. Explore new report templates and new program standards and learn how to avoid mistakes.

Judy O'Neal

National Council of Teachers of Mathematics, Reston, Virginia

Room 110/111

159.1 New K–5 Math Curriculum for Building Mathematical Thinkers

(Pre-K–5) Exhibitor Workshop

Bridges in Mathematics, second edition, is a comprehensive K–5 curriculum that equips teachers to fully implement the Common Core State Standards in a manner that is rigorous, engaging, and accessible. Join us for an overview of this unique program—learn more about workplaces, visual models, and putting the mathematical practices into action.

The Math Learning Center

Salem, Oregon

Room 103

159.2 Do Story Problems Scare the Daylights Out of Your Students?

(3–8) Exhibitor Workshop

For many students, story problems set off a panic alarm: How does one translate an abstract story problem into an even more abstract algebraic equation? Attend this session to learn how Hands-On Equations® enables students to represent and solve story problems visually using game pieces, including age and consecutive number problems.

Borenson and Associates

Allentown, Pennsylvania

Room 102

160 New and Preservice Teachers Workshop

(General Interest) Gallery Workshop

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

David Barnes

National Council of Teachers of Mathematics, Reston, Virginia

Room 104

161 **DM** The Young Gifted Mathematician: Ideas and Strategies

(Pre-K–2) Gallery Workshop

Gifted students in preschool through grade 2 are often unidentified and underserved. Learn to use informal means to identify young students who may be advanced in mathematical areas. Explore ways to enrich and accelerate the curriculum through hands-on activities and play-based learning in a regular classroom or pull-out program.

Becky Leff

Quest Academy, Palatine, Illinois

Room 109

162 Use the Hundred-Bead Abacus to Implement the Common Core Standards

(Pre-K–2) Gallery Workshop

The hundred-bead abacus is a useful teaching aid. It gives you the opportunity to make children's learning experience exciting and enjoyable through many different techniques. Explore these techniques with us.

Tomoe Fujimoto

Tomoe MI Academy, Tokyo, Japan

Hiroo Kodama

Tomoe MI Academy, Tokyo, Japan

Room L4/L5

163 It's All in the Process: Strategies for Addressing Reasoning—Elementary

(Pre-K–5) Gallery Workshop

Learn strategies for problem solving to assist students in making sense of problems, decontextualizing and contextualizing, and constructing viable arguments as they formulate their own ideas about the meaning of the problem and predict outcomes.

Tammy L. Jones

TLJ Consulting Group, Lebanon, Tennessee

Leslie A. Texas

Leslie Texas Consulting, Louisville, Kentucky

Room L2/L3

Do Word Problems Scare the Daylights Out of Your Students?

Friday, November 8
9:30 a.m. - 10:30 a.m.
Room #102



Speaker:
Cindi Crabtree

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10:30 A.M.–12:00 P.M.

164 **ELL**
Deciphering the Complexity of Differentiating for English Language Learners

(3–5) Gallery Workshop

Differentiation can be daunting when trying to meet the needs of English language learners. There are five areas to address before implementing the instructional strategies of differentiation: knowledge of students, learning environment, assessment, content knowledge, and appropriate instruction.

Stefanie D. Livers
University of Alabama, Tuscaloosa

Room 101

165 **EF**
Rational Number Project: Negotiating Models for Teaching Fractions

(3–5) Gallery Workshop

Use models found to be effective in building (a) meaning for fractions and their relative size, (b) a reason for common denominators when adding and subtracting fractions, and (c) an understanding of the algorithm for multiplying fractions. We will share lessons from the Rational Number Project curriculum and examine student work.

Kathleen Cramer
University of Minnesota, Minneapolis

Debbie Monson
University of St. Thomas, Minneapolis, Minnesota

Room 207/208

166
Exceptional, Free Online Resources for Teaching Probability

(3–8) Gallery Workshop

Illuminations (<http://illuminations.nctm.org>) has a treasure trove of excellent resources for the middle grades, including lesson plans, online activities, and math strategy games. Immerse yourself in Illuminations lessons, play an online math strategy game, and discuss how all these resources can be used in your classroom to get students excited about probability!

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

Room 112

167
Moving Forward with Metric

(3–8) Gallery Workshop

Milligrams of medicine, 5K races, 2-liter soft drinks. Metric is here! Learn methods to teach and see the metric system. These hands-on classroom activities are aligned with the Common Core State Standards. Have fun! I'll provide handouts and materials.

Donna L. Monck
Rock Christian Academy, Easton, Pennsylvania

Room L15

168
Developing Fraction Number Sense in the Middle Grades

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

Experience activities, tasks, and games to develop and extend students' understanding of fraction concepts and operations. Go beyond procedures to build number sense and flexible thinking for fraction computation.

Rick Anderson
Eastern Illinois University, Charleston

Room 210/211

169
Managing Groups and Fostering Math Practices

(6–12) Gallery Workshop

Be a participant! Work in groups learning sorts, ice breakers, study-team roles, and study-team strategies and expectations that help students foster the Common Core State Standards for Mathematical Practice. Efficient group work can help students "make sense of problems and persevere," "reason abstractly and quantitatively," and "construct viable arguments and critique the reasoning of others."

Theresa Reilly
Jefferson County Public Schools, Louisville, Kentucky

Room 203-206

Free T-shirts—
stop by the Member Showcase
to learn how to get one!



10:30 A.M.–12:00 P.M.

170 Modeling through Stacking and Nesting

(6–12) Gallery Workshop

Collect data from a variety of real-world activities related to stacking or nesting objects and make decisions on how to interpret the data through the Ohio University advanced quantitative reasoning modeling philosophy.

John M. Ashurst

Harlan Independent Board of Education, Kentucky

Room 108

171 The Many Faces of Differentiation in Algebra

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

Investigate various types of differentiated material, discussing when, why, and how they can be used. Working from scenarios, we'll create material. Some of the differentiation methods discussed: tiered worksheets, graduated difficulty problem sets, differentiated questioning, different contexts or instructional mode. Support and challenge all!

Allan E. Bellman

University of California, Davis

Room 212-217

11:00 A.M.–12:00 P.M.

172 Applying Interactive Technology to Mathematics

(General Interest) Session

Learn about practical and realistic ways to integrate interactive technologies into mathematics. The technologies I will discuss include interactive whiteboards, mobile applications, software, and free Web-based programs. Technology content will focus primarily on number operations, algebraic thinking, and algebra.

Shannon Michelle Stone

Jefferson County Public Schools, Louisville, Kentucky

Leah L. Dix

Jefferson County Public Schools, Louisville, Kentucky

Room 218

173

NCTM Board Hot Topic Embracing the Common Core: An Opportunity, Not a Burden

(General Interest) Session

The Common Core presents an unprecedented opportunity for mathematics education in this country. Participants will have an opportunity to learn about NCTM's efforts and to share their own successes and challenges. It is up to us to take ownership and make it happen!

Karen Graham

Board of Directors, National Council of Teachers of Mathematics; University of New Hampshire, Durham

Linda M. Gojak

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

Room 209

174

Number Talks: A Path to Numerical Reasoning

(General Interest) Session

Receive an introduction to number talks and see demonstrations of how this classroom routine can support students in developing accurate, efficient, and flexible computation strategies. I will use classroom video clips to highlight the goals of number talks and how they address the Common Core State Standards and the mathematical practices.

Sherry D. Parrish

University of Alabama at Birmingham

Cascade Ballroom B

175

Assessing Student Understanding of Fractions: An Interview Protocol for Teachers

(Pre-K–2) Session

How do we know what students understand about fractions? Analyze and engage in assessment tasks targeting student understanding of fractions in early grades. I will share items used with K–3 students. We will examine what the tasks reveal about understanding and how that can be used to inform instruction.

Trena L. Wilkerson

Baylor University, Waco, Texas

Room 105

Friday

11:00 A.M.–12:00 P.M.

176 Building a Community of Mathematicians

(Pre-K–5) Session

Learn strategic ways to build a community of mathematicians in your school and how to establish norms for a positive mathematical environment. This requires inquiry-based instruction as it relates to the Common Core State Standards. You will learn various ways of engaging students during math instruction.

Carla M. Kolodey

Jefferson County Public Schools, Louisville, Kentucky

Room 110/111

177 Engaging Elementary School Student Mathematicians in High-Level Thinking through Communication

(Pre-K–5) Session

Teachers can readily use communication, both verbal and written, to help students engage in higher-level thinking. Come learn about proven strategies that comprehensively address the Common Core's call for students to construct viable arguments and critique the reasoning of others and that support gifted students struggling to explain their reasoning.

Tutita M. Casa

University of Connecticut, Storrs

Room 201/202

178 Creating High-Level Cognitive Tasks for All Learners

(3–5) Session

Mathematics tasks can facilitate or hinder English language learners' (ELLs) learning. In this interactive session, you will discuss tasks that can help your ELLs learn math while increasing cognitive demand for all students. We will use examples from curriculum materials and classroom videos to illustrate strategies to help ELLs.

Anne T. Estapa

Iowa State University, Ames

Cascade Ballroom C

179 It's Not about You: Shifting the Focus to the Students

(3–8) Session

Students need to be engaged in the Common Core State Standards for Mathematical Practice. However, what that actually looks like in the classroom is elusive. Explore classroom videos that capture students engaged in the practices and discuss teacher moves and meaningful tasks that support this engagement.

Juli K. Dixon

University of Central Florida, Orlando

Room L14

180 Direct Variation Is Not a Slippery Slope

(6–8) Session

I will present a series of carefully designed activities that help students make sense of slope as a constant rate of change. We'll connect slope and direct variation using the context of skate ramps, TV screens, and protein shakes. We'll also discuss inverse variation.

Laurie Boswell

The Riverside School, Lyndonville, Vermont

Cascade Ballroom A

181 Constructions, Circles, Similarity, and Proofs with GeoGebra and Cabri Jr.

(6–12) Session

Find out how the dynamic geometry programs GeoGebra and Cabri Jr. can be used to perform geometric constructions. Then, examine connections between constructions, similar figures, circles, and proofs. We'll focus on the Common Core State Standards for Mathematics, grades 9 through 12.

Tim S. Truitt

Jefferson County Public Schools, Louisville, Kentucky

Room 219

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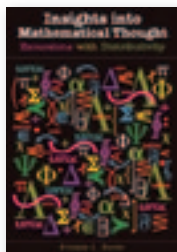
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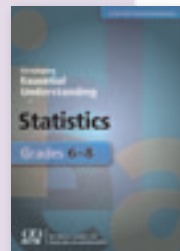
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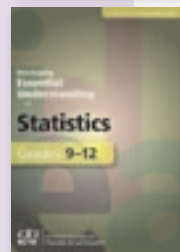


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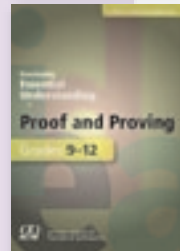


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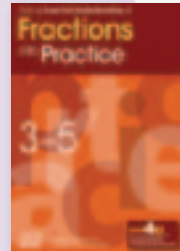
BARBARA DOUGHERTY, SERIES EDITOR

Putting Essential Understanding of Fractions into Practice in Grades 3-5

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NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

11:00 A.M.–12:00 P.M.

182 What I Learned about Assessment from the AP Program

(9–12) Session

Forty years of teaching have taught me many things, but my most significant learning experiences have been in the area of assessment. My years with the AP Committee were especially enlightening, showing me how to challenge all my students without scaring them away.

Dan Kennedy

Baylor School, Chattanooga, Tennessee

Room L6/L7

183 The Foreign Nature of Communication in Your Classroom

(Preservice and In-Service) Session

Learn about a language-dependent mathematics task that provides an empathic math-language experience. You will be presented with a problem, make sense of the problem, and determine a course of action. In particular, we will discuss links to the implications for student communication and the Standards for Mathematical Practice.

Jessica T. Ivy

Mississippi State University

Dana Pomykal Franz

Mississippi State University

Kelly Moser

Mississippi State University

Room 106/107

183.1 The Houghton Mifflin Harcourt Personal Math Trainer (Grades K–12)

(3–8) Exhibitor Workshop

A demonstration of this exciting new digital component that provides adaptive personalized assessment, intervention, and practice. The Personal Math Trainer presented by Tyrone Holmes, National Math Specialist at HMH, includes learning aids to improve the understanding of math concepts including videos, guided examples, and step-by-step solutions.

Houghton Mifflin Harcourt

Boston, Massachusetts

Room 103

183.2

Making Secondary Math Journals Fold-tastic!

(6–12) Exhibitor Workshop

Cut, fold, and more, in this hands-on workshop as you transform basic classroom materials into Notebook Foldables that are sure to make your student math journals fold-tastic. Depart with a mini-composition book made on site that is filled with immediately usable ideas.

Dinah-Might Adventures

San Antonio, Texas

Room 102

12:30 P.M.–1:30 P.M.

184 Numeracy and Literacy: What Can We Learn?

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

Students learn early numeracy in much the same way they learn early literacy, so why does our instruction look so different? Through the use of videos, we look at children's numeracy development and how we can use the teaching strategies effective in literacy development to guide our instruction in early numeracy.

Shelley Dickson

Fayette County Public Schools, Lexington, Kentucky

Room 105

185 Number Sense Begins with Ten-Frames

(Pre-K–5) Session

Learn why ten-frames are such a powerful tool to help students build number sense and master arithmetic. Learn how to integrate ten-frame models into your instruction to develop the Common Core mathematical practices in every student. Take away classroom-proven resources.

Christine S. Losq

CSL Associates, Inc., Palo Alto, California

Room L14

186 **EF****Beyond Counting Parts:
Engaging Students in Foundational
Fraction Ideas**

(3–5) Session

Challenging topics in the upper elementary grades include teaching and learning fractions and the Common Core mathematical practice of constructing viable arguments and critiquing the reasoning of others. We will particularly look at common patterns of student thinking and instructional strategies for supporting students' learning.

Meghan Shaughnessy

University of Michigan, Ann Arbor

*Cascade Ballroom B***187****Writing: A Tool to Organize and
Clarify Mathematics Concepts**

(3–5) Session

Through the powerful tool of writing, students have the opportunity to express their understanding of math concepts in their own words by synthesizing information, organizing and clarifying their thinking, and combining separate ideas into a new whole. Writing helps students with problem solutions, pattern identification, and precise vocabulary.

Lynn Columba

Lehigh University, Bethlehem, Pennsylvania

*Room 110/111***188****Making Student Thinking Visible**

(6–8) Session

Research on effective classrooms shows visible thinking weaves throughout teacher planning and presentation. In making thinking visible, teachers have a variety of strategies available. What are classroom activities that make student thinking visible? How can they be extended? What are the benefits of visible thinking?

Don S. Balka

Didax, Rowley, Massachusetts

*Cascade Ballroom A***189** **ELL****Differentiated Instruction in
Mathematics for English
Language Learners**

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

Experience a geometry lesson that is differentiated to provide access to mathematics for all learners. We will discuss strategies for differentiating instruction, developing a positive classroom environment, and managing authentic collaboration in mathematics for English language learners.

Deandrea Murrey

California State University Dominguez Hills, Carson

*Room 106/107***190****How Virtual Science Manipulatives
Enhance Student Understanding
in Mathematics**

(6–12) Session

Computer-based science simulations are an ideal way to engage math students in real-world problems, allowing students to apply algebra skills to problems in density, electricity, motion, and other topics. Through specific questioning techniques, students learn to find patterns in data, discover principles on their own, and solve problems.

Sue Bridgman

ExploreLearning, Charlottesville, Virginia

*Room L6/L7***191** **DM****Identifying and Developing
Strengths of Gifted Students:
Scientific Village Strategy**

(6–12) Session

Learn about the characteristics of mathematically gifted students and see problems, projects, and applications to identify students' talents and interests, as well as challenge them and help them know what they know. Engage in the solution of several problems. I'll describe the Scientific Village, a National Science Foundation–funded and evaluated approach.

Carole E. Greenes

Arizona State University, Tempe

Room 201/202

12:30 P.M.–1:30 P.M.

192

Advanced Algebra with Financial Applications: Quantitative Financial Literacy for All

(9–12) Session

Advanced Algebra with Financial Applications is a third- or fourth-year course for students of all abilities that is aligned with the Common Core State Standards. Students learn selected topics in algebra 2, probability, statistics, and precalculus with an algebra 1 prerequisite, while covering banking, taxes, insurance, credit, investing, budgeting, and more!

Richard J. Sgroi

Bedford Public Schools, New York (Retired)

Room 209

193

The Shape of Geometry and the Geometry of Shape

(9–12) Session

In the past fifty years, the content of the geometry curriculum has been influenced by transformations, coordinates, applications, and technology. Each of these influences can change the way one views geometry as a subject to be taught and learned and affects the idea of “shape.” And so the shape of geometry is related to the geometry of shape.

Zalman Usiskin

University of Chicago, Illinois

Cascade Ballroom C

194

Investigating Understanding of Trigonometric Relationships between Two Base Angles

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

Trigonometry has been a central part of the mathematics curriculum for over a century. However, both students and teachers have struggled with reasoning about topics related to trigonometry. This report describes mathematics education graduate students’ understanding of relationships between sine and cosine of two base angles in a right triangle.

Melike Yigit

Purdue University, West Lafayette, Indiana

Room 218

195

What Knowledge Do Secondary Geometry Teachers Need to Be Effective?

(Higher Education, Preservice and In-Service, Research) Session

Teaching geometry concepts such as surface area, volume, and similarity and congruence in a climate of high-stakes testing can be a daunting and challenging task. We will report on the research results of Geometry Assessments for Secondary Teachers, a National Science Foundation–funded project, revealing what factors affect student achievement in secondary geometry classrooms.

Margaret Mohr-Schroeder

University of Kentucky, Lexington

William Bush

University of Louisville, Kentucky

Carl W. Lee

University of Kentucky, Lexington

Room 219

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Factor Maze Puzzle

Move Up/Down/Left/Right with common factors.

START

$x^2 + 8x + 7$	$x^2 + 10x + 21$	$x^2 + 8x + 7$
$x^2 - 6x - 7$	$x^2 - 9x + 14$	$x^2 + 6x + 5$
$x^2 + 12x + 11$	$x^2 - 6x - 55$	$x^2 + 4x + 3$
$x^2 - x - 2$	$x^2 - 14x + 33$	$x^2 - 6x - 7$
$x^2 - 2x - 3$	$x^2 - 6x - 55$	$x^2 + 6x + 5$

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12:30 P.M.–1:30 P.M.

195.1

Walk the Number Line for Research-Based Results

(Pre-K–5) Exhibitor Workshop

Elementary learners need a number line for powerful concepts like multiples, regrouping, making change, elapsed time, rounding, factoring, and fractions! You will be amazed by Kim Sutton's unique strategies for K–5 and ready for action on Monday morning using the most important visual!

Creative Mathematics

Arcata, California

Room 102

195.2

Conquer Times Tables in ONLY 3 WEEKS—Guaranteed!

(3–8) Exhibitor Workshop

Conquer Times Tables in ONLY 3 WEEKS—Guaranteed! If class average isn't 90 percent on the final test—100% refund. Research-based—MULTI-SENSORY—all four learning styles—for ALL students. No training! MULTI-SENSORY sister products to add, subtract, divide, and do ClockWise fractions and equivalency. Find out about us at www.rhymesntimes.com or www.clockwisemath.com, or call 888-684-6376.

Rhymes 'n' Times

Lewisville, Texas

Room 103

12:30 P.M.–2:00 P.M.

196 Number Know-How and Fluency Fun

(Pre-K–2) Gallery Workshop

Number sense involves knowing meanings of numbers, ways of representing numbers, and relative magnitude of numbers, as well as skill in working with numbers. Explore activities and games for developing the early-elementary number and operation standards described in the Common Core State Standards.

Ann C. McCoy

University of Central Missouri, Warrensburg

Room L15

197

Thinking Strategically: Connecting Addition and Subtraction

(Pre-K–2) Gallery Workshop

By the end of grade 2, students are expected to explain why addition and subtraction strategies work. Three strategies lead students to the connections between the two operations and supply the underlying reasoning to the basic facts. We can extend these to multidigit computation. Let's arm our students with meaningful strategies.

Rob Nickerson

ORIGO Education, St. Charles, Missouri

Room 212-217

198

How to Cultivate Algebraic Thinking for Our Students and Ourselves

(Pre-K–5) Gallery Workshop

Both the NCTM Standards and the Common Core State Standards for Mathematics insist on algebraic thinking from the start. But what does it mean to do algebra in the early grades? Experience concrete and engaging examples from *Planting the Seeds of Algebra: Explorations for the Early Grades*, modeling how to uncover the algebraic character of elementary math.

Monica Neagoy

Monica Neagoy Mathematics Consulting Services, Arlington, Virginia

Room 112

199

Fractions Are Numbers, Too! Deeper Understanding through Interactive Activities

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

Engage in problems from the Common Core progression for Number and Operations—Fractions. Experience activities designed to build student confidence with fractions just as they build when learning to work with whole numbers. While rolling dice to create fractions, we will experience mathematical practice 3.

Alanna Mertens

Chicago Public Schools, Illinois

Heather Brown

Illinois State Board of Education; Statewide System of Support/ PDA, Joliet

Room 108

12:30 P.M.–2:00 P.M.

200 **DM** Improving Mathematics Tasks and Teaching for Gifted Learners

(3–8) Gallery Workshop

How can teachers in grades 3–5 meet the mathematical needs of all their students, including gifted learners? We will examine student work and videos as we consider the perspective of gifted students and their parents. We'll also examine strategies for enhancing tasks and teaching mathematics to gifted learners.

Kathryn B. Chval
University of Missouri, Columbia

Room 207/208

201 Tri-Mathalon: Activities, Challenges, and Games to Try

(3–8) Gallery Workshop

Looking for ways to exercise students' minds, stretch their imaginations, and help them grasp goals? Join us as we revisit some classics and introduce you to new ideas worth exploring. You'll leave with exciting activities, challenging puzzles, and fabulous games for immediate use to help your students stay mathematically fit for the future!

Martha Hildebrandt
Chatham University, Pittsburgh, Pennsylvania

Room 104

Tools, Ideas, and Activities to Make Your Job Easier!

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We've got time-saving tips and resources to help you meet the challenges you face on a daily basis. Stop by to pick up...

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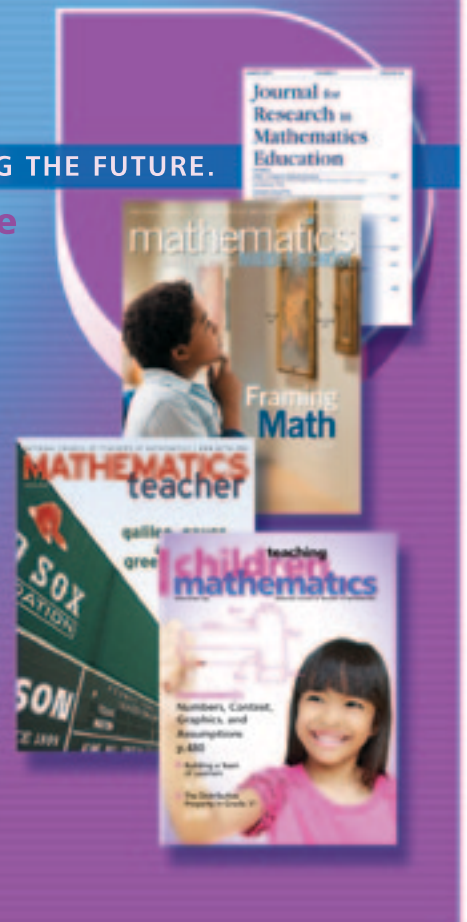
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Fri. 8:00 a.m. – 4:00 p.m.



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Friday

EW Exhibitor Workshop

DM Developing Mathematical Promise, Talent, Creativity, and Giftedness

EF Exploring Fractions

ELL English Language Learners

SE Special Education

202

Launch a Quadrilateral into Space

(6–12) Gallery Workshop

Construct a rocket from a single sheet of paper using no scissors, glue, or tape. Determine your rocket fuel formula using effervescent tablets and choice of liquid (soda or water) and temperature (cold or warm). Then launch your rocket using a film cannister containing your rocket fuel. Tape is optional.

William C. Luke

Central Texas College, Killeen

Gregory P. Luke

Temple High School, Texas

Room 109

203

Looking Beyond an Answer: Supporting Learners Who Struggle

(6–12) Gallery Workshop

Skill-based assessments often do not give enough information to determine what instruction and content students need to move forward. We will provide examples of conceptual and skill-based assessments for use in middle and secondary classrooms with a focus on interpreting students' needs from their responses.

Barbara J. Dougherty

University of Missouri, Columbia

Anne Foegen

Iowa State University, Ames

Room L4/L5

204

Algebra 1 and 2 Activities from Automotive, Manufacturing, and Construction

(9–12) Gallery Workshop

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

Tom W. Moore

Thompson R2J Schools, Loveland, Colorado

Room 210/211

205

Cross-Curricular Integration: Tracking the Space Shuttle

(9–12) Gallery Workshop

When the space shuttle traveled around the earth, NASA scientists tracked the path using a computer screen. This idea allows teachers to transform spherical 3-D points from a globe to rectangular 2-D points on a map. This connects algebra and geometry to geography, provides connections across the curriculum, and introduces the unit circle.

Carol H. Wade

State University of New York Brockport

Alison Wright

State University of New York Brockport

Room 203-206

206

Statistical Inference through Simulation

(9–12) Gallery Workshop

Using hands-on techniques and technology to conduct simulations, we will explore concepts of statistical inference. These simulations (randomization tests) provide more flexibility in the hypotheses our students can test and allow them to focus on conceptual understanding and statistical thinking.

Paul L. Myers

Georgia Institute of Technology, Atlanta

Room 101

207

The Perfect Math Marriage: Edmodo and the Mathroom Teacher

(Preservice and In-Service) Gallery Workshop

Edmodo is a secure, social learning platform for teachers, students, schools, and districts. It provides a safe and easy way for your class to connect and collaborate; share content; and access homework, grades, assessments, and notices. Edmodo allows teachers to share content easily, and free mobile apps for iPhones and Androids makes Edmodo mobile!

Shonda K. Brooks

St. Landry Parish School System, Opelousas, Louisiana

Room L2/L3

2:00 P.M.–3:00 P.M.

208 Powerful and Radical Actions to Enrich Number and Operations

(General Interest) Session

Learn about the latest resources from the National Council of Supervisors of Mathematics that support powerful and radical actions to implement number and operations. Resources include sample mathematical tasks, research, leadership tips, position papers, instruction that promotes students' proficiency in the mathematical practices, and formative assessment examples.

Suzanne Mitchell

National Council of Supervisors of Mathematics, Denver, Colorado

Cascade Ballroom B

209 Smarter Balanced Assessment System: Supporting Mathematics Teaching and Learning

(General Interest) Session

The Smarter Balanced Assessment Consortium is a group of states working together on an improved system for supporting mathematics teaching and learning. I will provide an overview of the consortium, the progress to date, and a look at future consortium activities.

Shelbi Cole

Smarter Balanced Assessment Consortium, Olympia, Washington

Cascade Ballroom C

210 Whatever Happened to Problem Solving in the Math Curriculum?

(General Interest) Session

If problem solving is to be the focus of school mathematics, why has it all but disappeared from our texts? I have written extensively about mathematical problem solving over the past forty years. In this session I will discuss the role of problem solving in instruction and what we should do to make it more central in our curricula.

Frank K. Lester

Indiana University, Bloomington

Room 106/107

211 Assessing and Advancing Early Numeracy

(Pre-K–2) Session

We will explore considerations for effectively implementing research-based response to intervention and learn about ready-to-use practical tools for assessing and advancing student numeracy foundations.

Alice J. Gabbard

Kentucky Center for Mathematics, Highland Heights

Room 219

212 From Balancing Students to Balancing Equations: Helping Children Visualize Mathematics

(Pre-K–2) Session

We will be exploring algebraic ideas and the concept of equality using role play, manipulatives, and children's literature. From helping kindergarten students build equations to teaching balanced equations, we will share methods to help younger children become enthusiastic, visualizing mathematicians.

Kyle M. Patterson

Centerfield Elementary, Crestwood, Kentucky

Marcia H. Rowe

Centerfield Elementary, Crestwood, Kentucky

Room L6/L7

213 Teaching Math? There's an iPad App for That!

(Pre-K–5) Session

How do you decide the best apps to use for teaching math when there are so many to choose from? We'll share iPad apps that go beyond basic flash-card practice technique to focus on developing conceptual understanding of math. Receive a detailed list of apps for each math strand and share your own favorites.

Leslie A. Suters

Tennessee Technological University, Cookeville

Sarah Ann Keller

Tennessee Technological University, Cookeville

Stephanie Richards

Tennessee Technological University, Cookeville

Room 105

Friday

214 **ELL**
**It's in the "With": Constructing
Common Resources *with*
English Learners**

(3–5) Session

Resources for teaching mathematics to English learners are too often understood as preexisting outside teacher-student interactions. I will offer an alternative view of resources by looking at an interaction in which an English learner and the researcher constructed multiple resources while working on a volume problem.

Higinio Dominguez
Michigan State University, East Lansing

Room 209

215 **DM**
**Let's Get Visual! Geometric
Problems That Make
Students Think**

(3–8) Session

How do we provide challenges for our most talented students? Come explore problems in geometry that will intrigue students and expand their understanding using drawings and models. I will present problems and questions that will challenge your most talented students!

Suzanne H. Chapin
Boston University, Massachusetts

Room L14

216 **ELL**
**Using Differentiated Assessments
to Help English Language Learners**

(3–8) Session

Learn strategies to help differentiate common formative assessments for English language learners. I will share recommendations for how both teachers and students can use the formative feedback gleaned from these assessments to help close the achievement gap.

Rachel Carrillo Syrja
The Leadership and Learning Center, Denver, Colorado

Room 110/111

217
**Algebra: Why Don't We
Use Research to Inform
Classroom Practice?**

(6–12) Session

Research about teaching and learning algebra has provided findings about how students learn core algebraic concepts such as equivalence or algebraic structure. How does this research play out in how algebra is taught? What do we know about instruction that can increase student access to these concepts?

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

Cascade Ballroom A

218
**Diagrammatic Reasoning Skills of
Preservice Mathematics Teachers:
An Investigation**

(Higher Education, Research) Session

I will report on a study that explored a relationship between geometric knowledge of preservice secondary mathematics teachers and their diagrammatic reasoning skills. In the course of this study, preservice mathematics teachers were presented with visual proofs of certain theorems and asked to reason from the diagram.

Margaret Karras
Borough of Manhattan Community College, City University of
New York, New York

Room 218

219
**Using Children's Literature to
Engage Learners in Mathematics**

(Preservice and In-Service) Session

I will present an organizational tool to assist elementary teachers in planning exploratory lessons using children's literature. We will explore the challenges for this kind of work. Receive a handout of example lessons that were developed by teachers.

Lynn C. Hart
Georgia State University, Atlanta

Room 201/202

2:00 P.M.–3:00 P.M.

219.1 Implementing CCSS from a Teacher's Perspective

(6–12) Exhibitor Workshop

When it comes down to implementation of Common Core State Standards, how will our classroom practices change? How will they affect what students are doing? How will we make CCSS a reality in our classrooms? In this session, you will learn hands-on, practical strategies for engaging your students in the Mathematical Practices using technology.

Texas Instruments
Dallas, Texas

Room 102

2:30 P.M.–4:00 P.M.

220 Which One of These Things Doesn't Belong?

(Pre-K–2) Gallery Workshop

Explore methods of teaching classifying. Focal points will be use of the question “Which one of these things doesn't belong?” as well as children's books and manipulatives (insects, people, etc.) to teach use of objects' traits to categorize items, number sense, critical-thinking skills, and set concepts.

Michael D. Hardy
Saint Xavier University, Chicago, Illinois

Room 207/208

221 Four Types of Addition Facts That Help Develop All Others

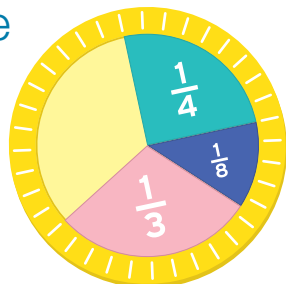
(Pre-K–5) Gallery Workshop

Four types of addition facts can help students develop fluency with all their addition facts: doubles, +0, make a 10, and 10 + something. Explore activities that build these four types of facts as well as connections to all other addition facts.

Christina Tondevoid
Mathematically Minded, Orofino, Idaho

Room 101

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222 Literacy in Geometry

(Pre-K–5) Gallery Workshop

How can we connect literacy and geometry in elementary classrooms? The use of books in a classroom can connect real-world examples with geometric concepts being studied. We'll look at a variety of books and activities that explore shapes and real-world contexts to help children better understand geometry in the world around them.

Joy P. Curtis
Edmonson County High School, Kentucky

Kari M. Everett
Eastern Kentucky University, Richmond

Room 112

223 Context vs. Key Word Approach to Solving Problems

(3–5) Gallery Workshop

Solving problems using a keyword approach skips the step of understanding and jumps directly to selecting a solution strategy or algorithm. Good problem solvers look beneath the surface information at the underlying model. I will focus on how to help students understand story problems before solving them.

Ann Wallace
James Madison University, Harrisonburg, Virginia

Room 109

224 Assessment for Learning: Uncovering Student Misconceptions through Formative Assessment Lessons

(3–8) Gallery Workshop

The depth of the Common Core State Standards for Mathematics requires instruction and assessment to change. Embracing this change means using assessments that inform instruction so that both students and teachers are learning from daily interactions. Come and explore how to use high-level tasks in formative lessons that address student misconceptions and create an environment for student thinking.

Debbie W. Waggoner
Kentucky Department of Education/ Central Kentucky Educational Cooperative, Lexington

Teresa Emmert
Kentucky Department of Education/ Green River Regional Education Cooperative, Bowling Green

Krista Hall
Kentucky Department of Education, Frankfort

Room 212-217

225 **DM**

Mathematical Modeling with Upper Elementary and Middle Grade Students

(3–8) Gallery Workshop

The concept of mathematical modeling has applications with students much younger than the tertiary level. Students as young as grades 3–8 can engage in the creation of mathematical models and make sense of precollege-level mathematics. Model-eliciting activities can be used to challenge students of various ability levels.

Scott A. Chamberlin
University of Wyoming, Laramie

Room L15

226

Saving the Planet with Math

(3–8) Gallery Workshop

Being good environmental stewards and global citizens requires an understanding of math concepts such as large numbers, growth patterns, measurement, probability, algebra and more. Discover creative hands-on math activities that include science and social studies content about the world around us. Free CD-ROM of activities!

Walter Ryan
Indiana University Southeast, New Albany

Room 203-206

227

STEM and CCSS: Go Green! Math and Science Interdisciplinary Fun

(3–8) Gallery Workshop

Go Green incorporates the Common Core State Standards (CCSS) by team teaching with science. This hands-on session includes activities and labs to teach math through the science concepts of energy usage; alternative energies; and reducing, reusing and recycling. Mathematically explore problem-based learning activities that open your students' eyes to the world around them.

Jim Reynolds
Galway Central School, New York

Carrie Herron
Galway Central School, New York

Room 108

228

Three Dozen Games with Three Dozen Dice

(3–8) Gallery Workshop

Who knew regular dice could be used to teach and practice operations, order of operations, fractions, place value, patterning, data management and analysis, probability and more! Come prepared to play with easy-to-find regular spotted dice and learn three dozen ways to motivate and engage your students. Great for differentiation.

Jane Felling
Box Cars & One-Eyed Jacks, Edmonton, Canada

Room L2/L3

229

Exploring AP Calculus with Graphing Calculator Investigations

(9–12) Gallery Workshop

Come explore hands-on activities involving limits, derivatives, and integrals through engaging lessons that use graphing calculators as discovery tools.

Deedee A. Stanfield
Oxford City School System, Alabama

Room 210/211

230

Using a Computer Algebra System with Struggling Algebra Students

(9–12) Gallery Workshop

Computer algebra system (CAS) in algebra 1: How can 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 without taking notes!

Derek Swierczek
Wheeling High School, Illinois

Ken Indeck
Wheeling High School, Illinois

Room 104

2:30 P.M.—4:00 P.M.

231 Math SDI—Simply Do It!

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

Specially designed instruction (SDI) is what makes special education special. Many teachers have students with an individualized education plan (IEP) for part of the school day. With the implementation of the Common Core State Standards, how are we to accelerate the learning of all K–12 students with math disabilities? This hands-on session will provide you with many ways to simply do it!

Mark E. Helton

Central Kentucky Special Education Cooperative, Lexington

Karen Campbell

PIMSER, Lexington, Kentucky

Room L4/L5

3:30 P.M.—4:30 P.M.

232 Algebraic Reasoning and Sense Making across the Grades

(General Interest) Session

I will focus on the importance of algebraic reasoning and sense making across the grades and present examples and activities that align with the Common Core State Standards.

Karen Graham

University of New Hampshire, Durham

Room 106/107

233 A Mathematical Carnival

(General Interest) Session

Step right up! Enter the wonderful world of recreational mathematics. I will model enthusiastic teaching and present mathematics in a spirit of play. You will learn activities that enhance NCTM Standards and motivate students to become active learners. Come prepared to experience the beauty and fun of mathematics.

Charles Sonenshein

Wright State University, Dayton, Ohio

Cascade Ballroom A

234 Coaching Tools to Support CCSS Content and Mathematical Practices

(General Interest) Session

A dual focus on the content standards and mathematical practices of the Common Core State Standards (CCSS) leads to mathematically proficient students. We will share tools (resources, templates, and activities) for mathematics coaches, leaders, and teachers that can support professional development efforts to ensure all students become mathematically proficient.

Maggie B. McGatha

University of Louisville, Kentucky

Jennifer M. Bay-Williams

University of Louisville, Kentucky

Beth Kobett

Stevenson University, Baltimore, Maryland

Cascade Ballroom C

235 Integrating English Language Arts into Mathematics Learning in Primary Grades

(Pre-K–2) Session

The Common Core State Standards for Mathematics require students to construct and critique arguments as they learn, which provides opportunities to address English language arts standards while engaging in rich mathematics tasks. We will highlight mathematics tasks that integrate reading, writing, speaking, and listening in the primary grades.

Melissa Faetz

Macon County Schools, Franklin, North Carolina

Delaney Holloway

Macon County Schools, Franklin, North Carolina

Room L14

236 Parent Involvement in Mathematics: Giving Parents a Voice

(Pre-K–2) Session

Potential impediments to student success are based on the teacher-focused construction of the parents' role in their child's math education and the parents' beliefs that children's math education is the school's and teacher's responsibility. This can possibly lead to conflict between parents' and teachers' beliefs regarding duties and responsibilities.

Sandra Wilder

The University of Akron, Ohio

Room 209

237 Formative Feedback to Empower Students

(Pre-K–5) Session

I will highlight the formative feedback practices implemented in a professional learning community by the teachers and leaders at Lacy Elementary School in Christian County, Kentucky. By thinking of likely misconceptions ahead of time and planning feedback, these teachers have transformed their instruction, assessment, and intervention practices. Learn what worked for them!

Jessica M. Addison
Kentucky Department of Education, Frankfort

Room 110/111

238 Solving Story Problems from Singapore Schools Using Bar Diagrams

(3–5) Session

Come and solve a selection of story problems from several elementary schools in Singapore. Learn to use bar diagrams, among other strategies, to help students develop the ability to visualize even as they learn mathematics.

Ban Har Yeap
Marshall Cavendish Institute, Singapore

Cascade Ballroom B

239 iPads for Math: Explore Apps Aligned with the CCSS

(3–8) Session

Let's explore iPad apps that will promote learning in elementary mathematics and are aligned with the Common Core State Standards (CCSS). The iPad can be used for presenting math instruction, for student exploration, for mastery of math concepts and facts, and as a tool for formative assessments. I'll recommend individual apps for specific math topics and furnish you with a list of resources.

Gayle D. Smith
Snoqualmie Valley School District, Washington

Room 218

240 Teacher Beliefs Affect Practice: Proportional Reasoning and Linear Equations

(6–8) Session

Investigate how our beliefs about mathematics and student learning affect the way we teach proportional reasoning and linear equations. Two middle-grades teachers will discuss how examining their own beliefs has affected their teaching of this topic and explore ideas for instruction.

Todd A Abel
Appalachian State University, Boone, North Carolina

Ashley Lamar
Ben Franklin Academy, Atlanta, Georgia

Adam Abel
Glade Spring Middle School, Virginia

Room 105

241 Math: A Not-So-Universal Language

(6–12) Session

Is mathematics really the universal language? With an increased focus on problem solving and reasoning in the mathematics classroom, students with limited English may struggle to learn this “universal language” of mathematics. We will discuss a variety of strategies that we have found increase English language learners' prealgebra skills.

Amy Nebesniak
University of Nebraska at Kearney

Aaron Burgoa
Harlem Village Academy, New York, New York

Room 219

242 Learning Mathematical Concepts through Context with Pictures

(9–12) Session

Now our graphing calculators have pictures. How do we use them in effective ways that promote concepts through context? We will use bridges, fountains, ferris wheels, and other images to explore function graphs, transformations, parametric relations, conics, regression, area under a curve and more!

John J. Diehl
Hinsdale Central High School, Illinois (Retired)

Room L6/L7

3:30 P.M.–4:30 P.M.

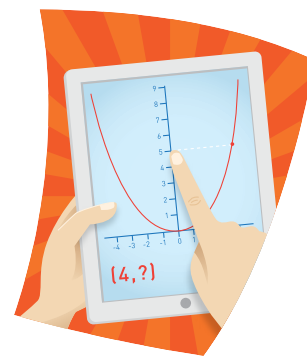
243 Mentoring, Induction, and Rounds! Oh My!

(Preservice and In-Service) Session

Professional development is not one size fits all. From the novice to the veteran teacher, you can transform school culture from teaching in isolation to public and collaborative work. We'll explore best practices that raise the discourse about teaching and learning, including educative mentoring, new-teacher induction, and instructional rounds.

Reena Freedman
Gann Academy, Boston, Massachusetts

Room 201/202



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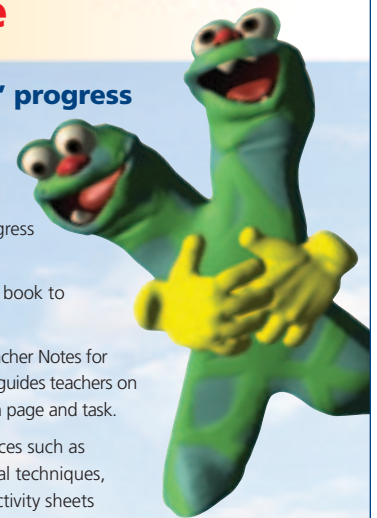
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Friday





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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 200 Affiliates throughout the United States and Canada. For a list of all organizations affiliated with NCTM and information on how to join, please see the Affiliate Directory on the NCTM website.

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The Greater Louisville Council of Teachers of Mathematics (GLCTM) is a local affiliate to NCTM with over 100 members. Members are actively involved in mathematics reform from the school district to university levels. GLCTM provides resources and up-to-date news on curriculum and standards. www.glctm.org

The Kentucky Council of Teachers of Mathematics (KCTM) is the state-level affiliate to NCTM with approximately 400 active members. Striving to meet our vision statement of "providing support and professional development for teachers of mathematics students from kindergarten and beyond," KCTM offers many opportunities to assist mathematics teachers in their work. www.kctm.org

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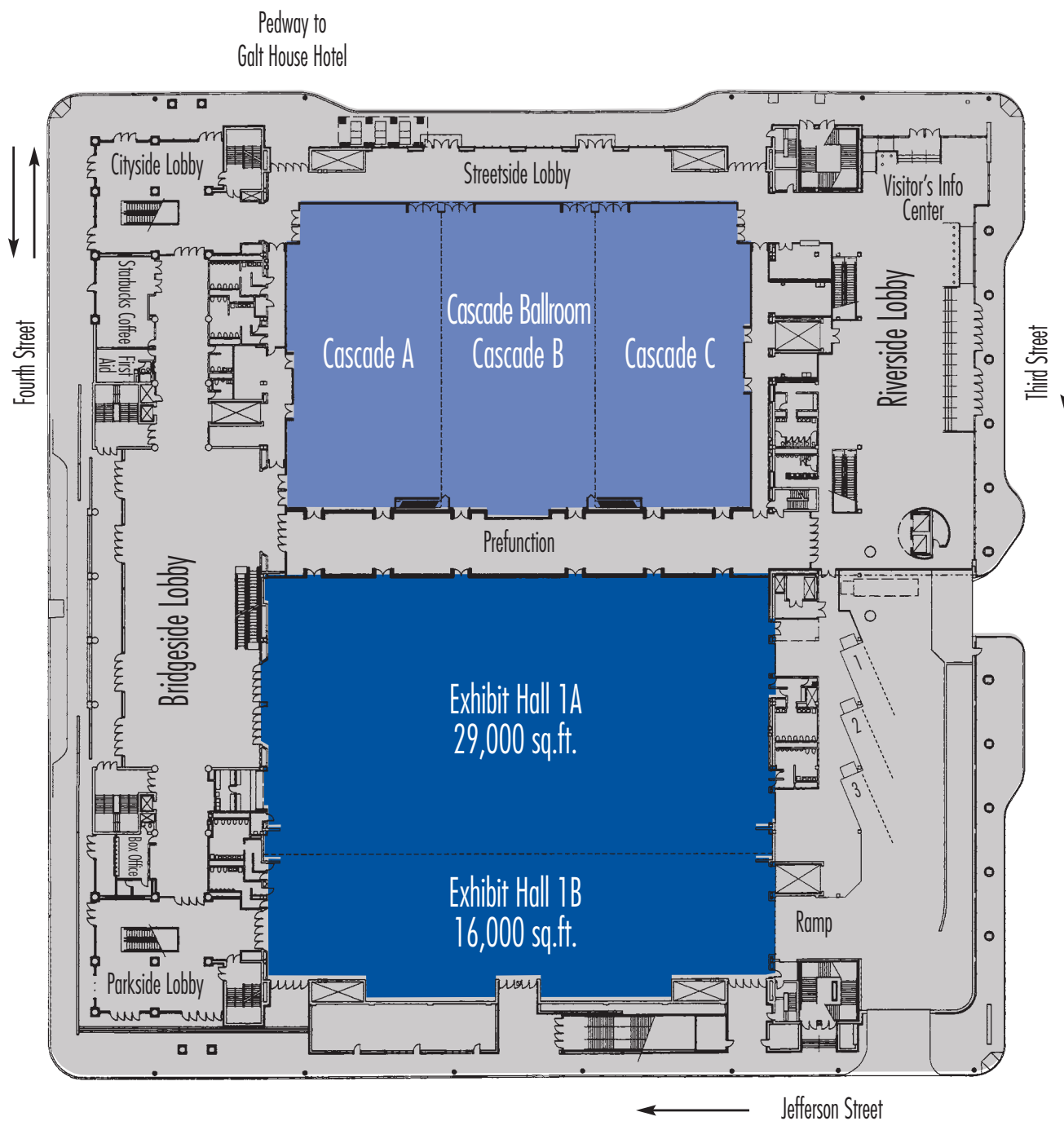
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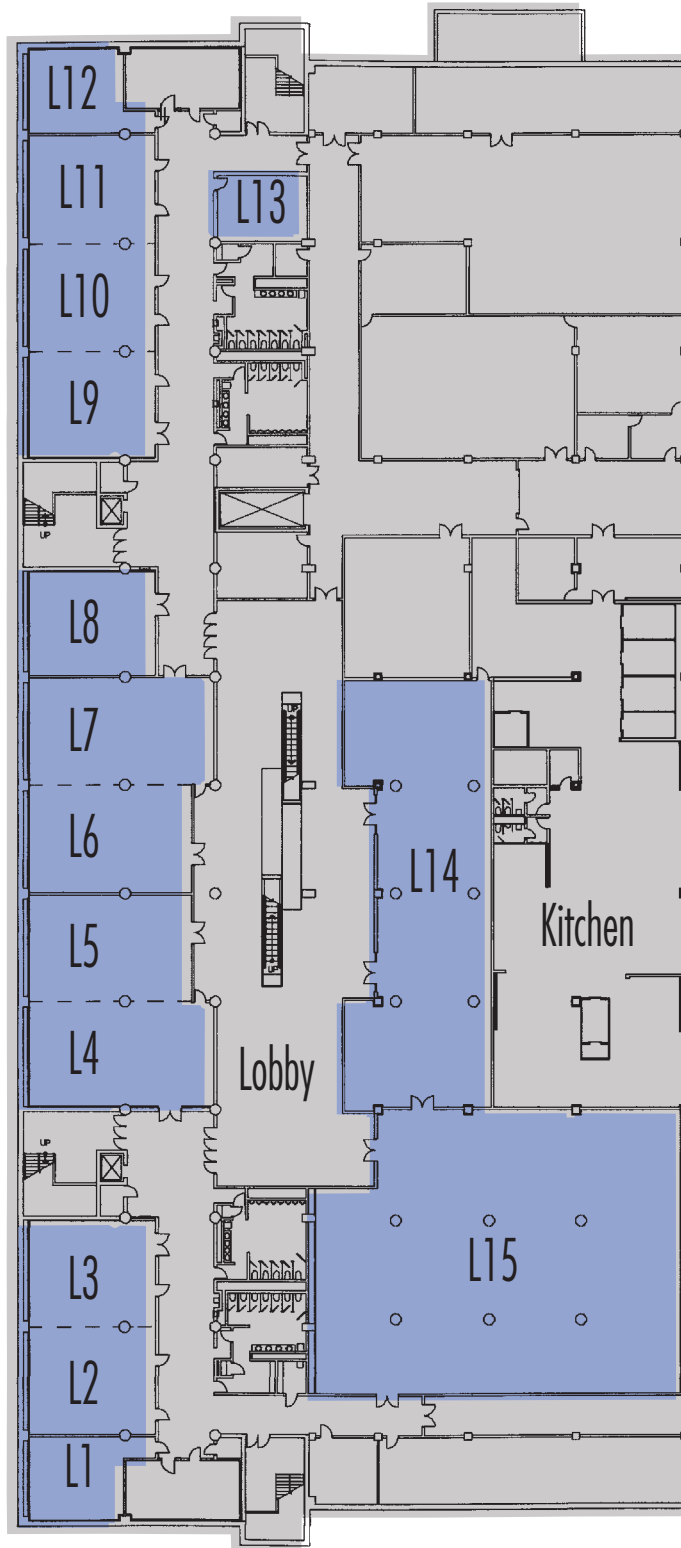
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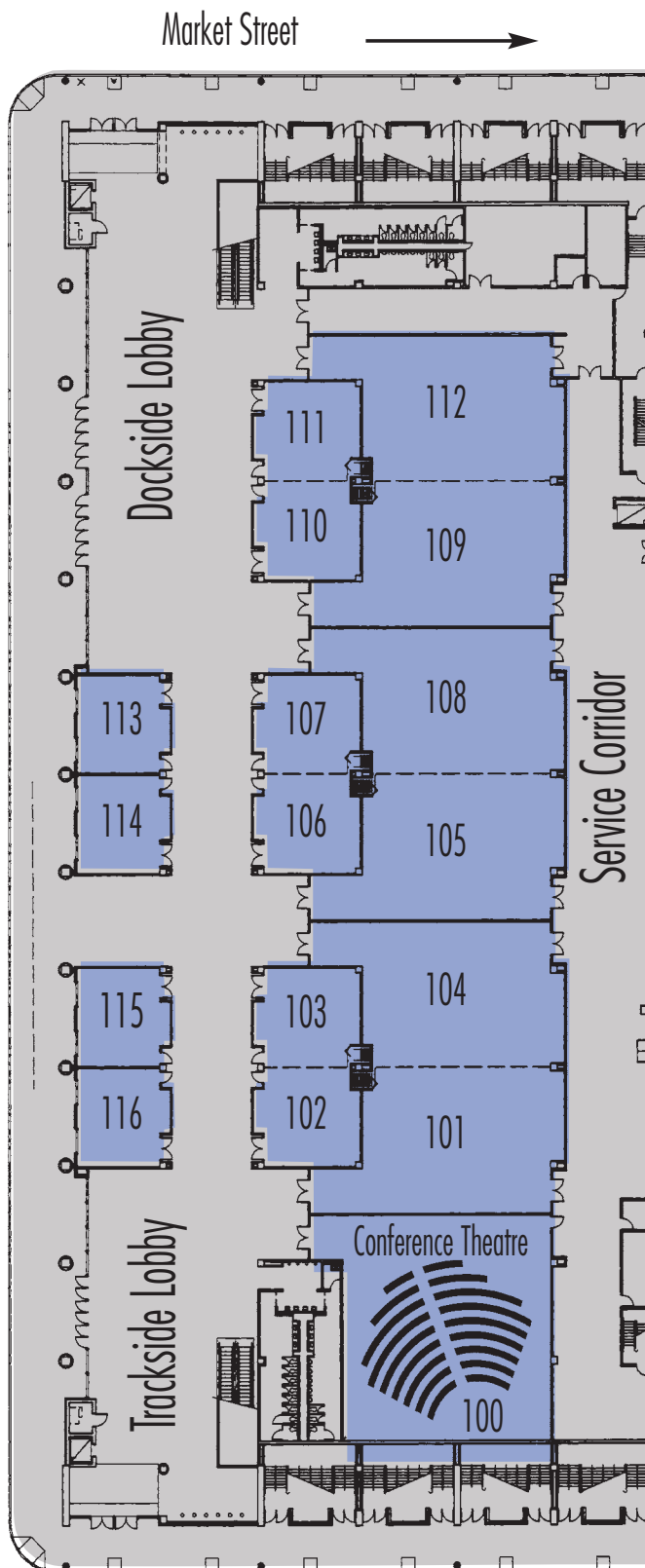
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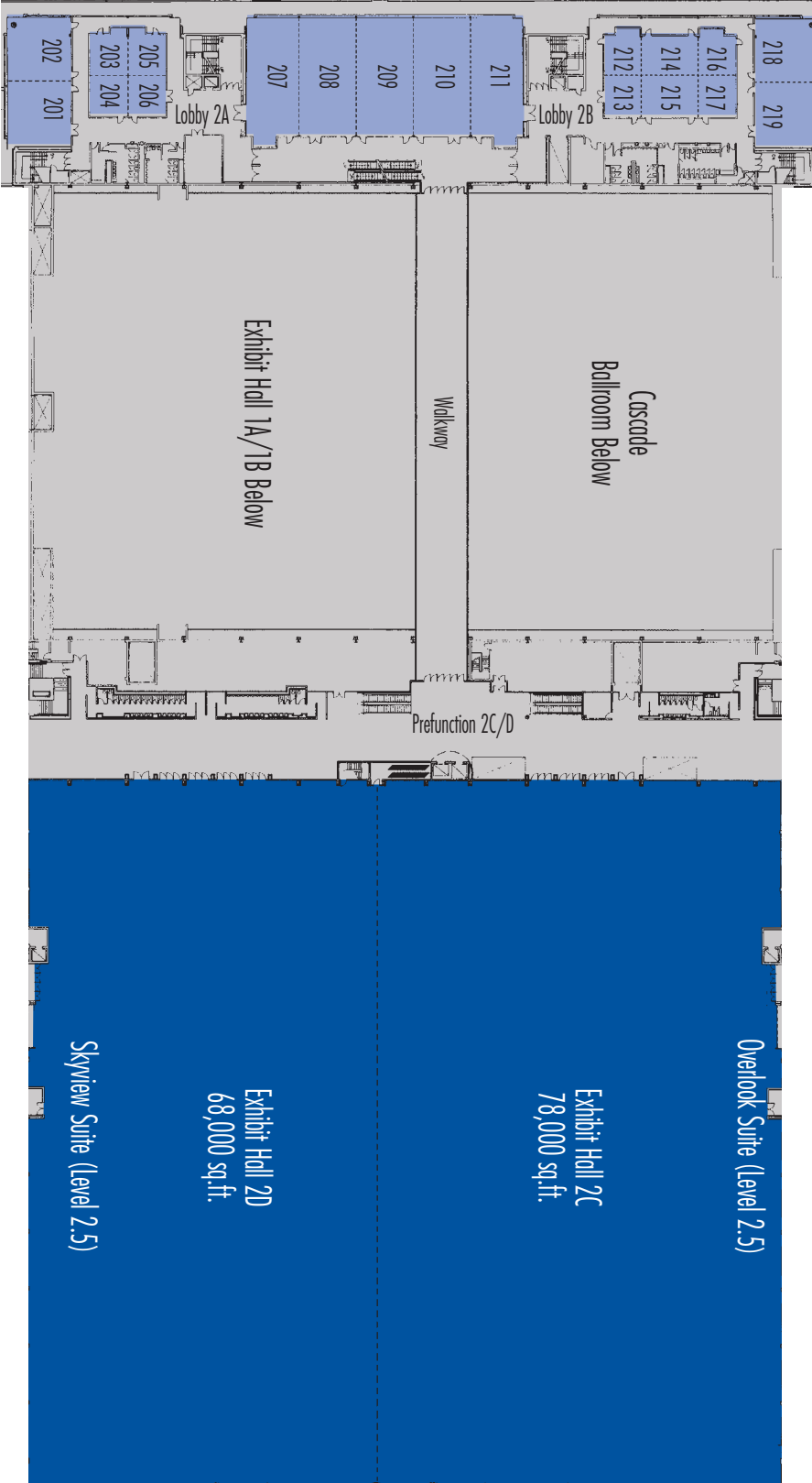


Exhibit Hall Floor Plan





A

AIMS Education Foundation

Booth: 102

Fresno, California
PH: 559-255-4094 888-733-2467
<http://www.aimsedu.org>

AIMS Education Foundation develops engaging K–9 math and science lessons using hands-on activities. Teachers love the conceptual understanding these investigations promote, and students love doing them! We support these lessons with professional development workshops, where teachers practice activities and learn to effectively use hands-on strategies to meet the needs of diverse students. AIMS is a nonprofit foundation that has been helping teachers succeed for over 30 years.

American Book Company

Booth: 408

Woodstock, Georgia
PH: 770-928-2834
<http://www.americanbookcompany.com>

Free Books, e-books and interactive online program trials for Common Core Mathematics K–12 available at the booth while supplies last! KPREP and Quality Core materials are also available at ABC booth # 408!

Ascend Education

Booth: 118

Shreveport, Louisiana
PH: 318-865-8232
<http://www.ascendmath.com>

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B

Big Ideas Learning, LLC

Booth: 220

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PH: 877-552-7766
<http://www.bigideasmath.com>

Big Ideas Learning, LLC was founded to create instructional materials that provide a coherent math curriculum to support world-class mathematics education. Using the findings of mathematical and pedagogical research, the Big Ideas Math program creators focused on introducing fewer topics at each grade level. The goal of the program is to provide a narrower and deeper course of study that leads students to mastery of each benchmark as they progress from grade to grade.

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Booth: 308

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Britannica Digital Learning

Booth: 418

Chicago, Illinois
PH: 800-621-3900

Recently updated to completely align to the Common Core, Britannica's Mathematics in Context (MiC) is a standards-based, NSF-funded curriculum for middle grades that is available in pdf, print, and an interactive digital format. With its modular design and embedded science context MiC is perfect for use in a STEM program or as math supplement. SmartMath is a fun Web-based K–8 tool for adaptive math practice. Britannica Mathematics: innovative products with the assurance of Britannica quality!

C

Casio America, Inc.

Booth: 101

Dover, New Jersey
PH: 973-361-5400
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Continental

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CPM Educational Program

Booth: 304

Sacramento, California
PH: 209-745-2055
<http://www.cpm.org>

CPM offers a comprehensive mathematics program, aligned with the Common Core State Standards (content and practices), for grades 6 through calculus. Experienced CPM teachers provide professional development workshops and individual mentoring so that teachers can effectively implement problem-based lessons in student-centered classes. CPM also offers professional development programs to help with the transition to CCSSM, as well as custom-designed professional development.

Creative Mathematics

Booth: 317

Arcata, California
PH: 707-826-2965
<http://www.creativemathematics.com>

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

D

Didax Inc

Booth: 204

Rowley, Massachusetts
PH: 978-997-4385 800-458-0024
<http://www.didax.com>

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Dinah-Might Adventures, LP

Booth: 108

San Antonio, Texas
PH: 210-698-0123 800-993-4624
<http://www.dinah.com>

Dinah-Might Adventures, LP is an educational publishing and consulting company owned by Dinah Zike, Author/Speaker. Her books are known for their innovative ways to use Foldables® in teaching all subjects and grade levels. She also offers professional development at the Dinah Zike Academy, a unique trainer of trainers facility in Texas.

E

EAI Education

Booth: 301

Oakland, New Jersey
PH: 800-770-8010
<http://www.eaieducation.com/>

EAI is a leading educational manufacturer of math manipulatives, resource books, trade-books, interactive whiteboard software, games, puzzles and calculators for all grade levels.

EPS Literacy and Intervention

Booth: 219

Cambridge, Massachusetts
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<http://epsbooks.com>

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ETA hand2mind

Booth: 216

Vernon Hills, Illinois
PH: 847-968-5204
<http://www.hand2mind.com>

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ExploreLearning

Booth: 208

Charlottesville, Virginia
PH: 866-882-4141-224
<http://www.explorelearning.com>

ExploreLearning develops two best of breed online solutions that help students succeed in math and science: ExploreLearning Gizmos, the world's largest library of highly interactive simulations for math and science in grades 3-12; and ExploreLearning Reflex, the most powerful math fact fluency program ever developed. Both have been recognized by the SIIA CODiE Awards as Best K-12 Instructional Solution (Gizmos in 2009, Reflex in 2012) in addition to many other accolades.

F

FACEing MATH

Booth: 212

Hemet, California
PH: 951-492-8341
<http://www.FACEingMATH.com>

FACEing MATH sells standards-based supplemental math workbooks that are a unique blend of math and art. The workbooks are all written by classroom teachers and range from first grade through high school algebra 2.

First in Math – Suntex International

Booth: 416

Easton, Pennsylvania
PH: 610-253-5255
<http://www.firstinmath.com>

Suntex's First In Math Online Program® complements any curriculum. Minutes a day, in the classroom or at home, gives K-12 students the "deep practice" necessary for skill retention and improved test scores. Engaging, substantive, self-pacing content enables students to take ownership of the learning process—with no additional load on teachers.



Frog Publications

Booth: 407
San Antonio, Florida
PH: 800-777-3764

Frog Publications is a publisher of educational materials, primarily used at the elementary level, with products that include: Systematic reinforcement programs, individualized educational plans, response to intervention, differentiated instruction, terrific, ready-to-use learning centers, take-home parental involvement program, daily review, critical thinking and dual language! All Frog games use the same easy-to-learn rules. Students needing different levels or skills can practice together!

H

Houghton Mifflin Harcourt

Booth: 315
Boston, Massachusetts
PH: 617-351-5344
<http://www.hmhco.com>

HOUGHTON MIFFLIN HARCOURT is a global learning company committed to changing lives by fostering passionate, curious learners. Among the world's largest providers of preK-12 education solutions and one of its longest-established publishing houses, HMH combines cutting-edge research, editorial excellence and technological innovation to improve teaching and learning environments.

I

IXL Learning

Booth: 107
San Mateo, California
PH: 650-372-4349
<http://www.ixl.com>

IXL is a math practice website completely aligned to all state standards and the Common Core. IXL offers unlimited questions in Pre-K—Geometry in a fun, visually-stimulating format that students love. Plus, teachers can view detailed reports on students' progress and trouble spots—including complete question histories for individuals.

J

Johnny's Key

Booth: 310
Trevorton, Pennsylvania
PH: 570-809-2840
<http://www.JohnnysKey.com>

Johnny's Key, founded in 2010, has helped thousands of teachers and students understand/model difficult math concepts such as elapsed time, making change, subtraction with regrouping, ratio/proportion, equality, and ordering of numbers, fractions, decimals, and percents. Founder Barbara Spotts provides Professional Development to teachers nationwide on topics such as How to Take Charge of Your Own Professional Development, What Math Class Should Look and Sound Like, and Questioning Strategies.

K

Kendall Hunt Publishing Company

Booth: 410
Dubuque, Iowa
PH: 563-589-1075
<http://kendallhunt.com/prek12>

Kendall Hunt offers a complete, Common Core-aligned mathematics solution for Pre-K–12. With a strong focus on the CCSS Mathematical Content and Mathematical Practice standards, our programs are designed to help students develop both procedural skills and conceptual understanding. Stop by booth 410 to see what's new for 2014 and get a sneak peek at digital Math Trailblazers, Math Intervention for the Common Core State Standards, and our new edition of *Discovering Algebra!*

L

Learning Wrap-Ups

Booth: 409
Layton, Utah
PH: 801-497-0050
<http://learningwrapups.com>

Learning Wrap-ups is the publisher of Learning Wrap-ups and Learning Palette. These unique products provide self-correcting learning tools specifically designed to develop automatic recall of basic math facts and to assist in the mastery of important Common Core skills covering the primary mathematical strands.

Lone Star Learning

Booth: 502
Lubbock, Texas
PH: 806-281-1424
<http://store.lonestarlearning.com>

Lone Star Learning is a curriculum development company offering unique, easy-to-use visuals and interactive bulletin boards that give students specific practice needed to achieve mastery in math, science, and language arts. We strive to decrease teacher effort while increasing student success with our innovative products!

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<http://www.mceducation.us>

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The Math Learning Center

Booth: 319

Salem, Oregon

PH: 800-575-8130 800-575-8130

<http://www.mathlearningcenter.org>

The Math Learning Center (MLC) is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based curriculum, resources, and professional development. Our products and services are used by educators throughout the United States and in many international locations.

Math Teachers Press

Booth: 202

Minneapolis, Minnesota

PH: 800-852-2435

<http://www.movingwithmath.com>

The Moving with Math Learning Management System for Pre-K-12 offers a blended learning approach for RTI. Using the C-R-A Model (Concrete-Representational-Abstract), all lessons include embedded professional development, assessments to monitor & measure progress, and instructional strategies to easily differentiate instruction. Lessons and assessments are correlated to CCSS, NCTM, and State Standards. All programs are supported by scientific research and meet the needs of ELL and special education.

MathOdes Company

Booth: 420

Festus, Missouri

PH: 314-717-8577

<http://www.mathodes.com>

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McGraw-Hill Education/ALEKS Corporation

Booth: 402

Irvine, California

PH: 714-245-7191-152

<http://www.aleks.com>

McGraw-Hill School Education is a leading pre-K–12 publisher, offering dynamic digital and CCSS-aligned math curricula designed to support every classroom. McGraw-Hill Education is proud to welcome ALEKS as the newest addition to the McGraw-Hill family! Backed by decades of research, ALEKS is a mastery-based, online math program for grades 3–12 that continuously assesses student progress and provides truly personalized instruction on the exact topics the student is most ready to learn.

MIND Research Institute

Booth: 302

Irvine, California

PH: 888-751-5443

<http://mindresearch.net/>

MIND is a neuroscience and education nonprofit that applies its distinctive visual approach to the development of math instructional software. MIND helps local schools create a blended learning environment to create a culture of critical thinkers for the next generation of STEM leaders. MIND's ST Math® programs reach 500,000 students and 21,000 teachers in 1,780 schools.

Mountain Math/Language, LLC

Booth: 509

Ogden, Utah

PH: 801-475-1963

Mountain Math/Language is the supplier of supplemental spiral review programs in math, language, science, and U.S. history. Products are available as bulletin boards, centers, games, and online. Common Core products also available.

N

Nasco

Booth: 312

Fort Atkinson, Wisconsin

PH: 920-563-2446

<http://www.eNasco.com>

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National Council of Supervisors of Mathematics

Booth: 504

Denver, Colorado

PH: 303-758-9611

NCSM is a mathematics leadership organization for educational leaders that provides professional learning opportunities necessary to support and sustain improved student achievement.

Neufeld Learning Systems Inc

Booth: 303

London, Ontario, Canada

PH: 519-657-9334 866-429-6284

<http://www.neufeldlearning.com>

Neufeld Learning Systems provides browser-based technology solutions and customized professional development for reaching all learners and teachers of mathematics. UMath X "goes deep" to address Common Core content with diagnostic tests for Kindergarten to Algebra 1. UMath X provides strand specific assessments and student reports to guide instruction and next steps.

O

Origo Education, Inc.

Booth: 322

Earth City, Missouri

PH: 314-475-3061

<http://www.origoeducation.com>

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P

Pearson

Booth: 201

Upper Saddle River, New Jersey
PH: 201-236-6613

<http://www.PearsonK12.com>

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Q

Qwizdom, Inc.

Booth: 507

Puyallup, Washington
PH: 253-845-7738

<http://www.qwizdom.com>

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R

Race 2 Achieve

Booth: 510

Philadelphia, Pennsylvania
PH: 267-437-3753

<http://race2achieve.org>

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Renaissance Learning

Booth: 307

Wisconsin Rapids, Wisconsin
PH: 715-424-3636

<http://www.renlearn.com>

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PH: 888-684-6376

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S

Scholastic

Booth: 422

New York, New York
PH: 212-965-7228

<http://www.scholastic.com>

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Singapore Math Inc.

Booth: 207

Oregon City, Oregon
PH: 503-557-8100 888-419-4408

<http://www.SingaporeMath.com>

Singapore Math Inc® is a company dedicated to bringing the highest-quality educational resources to the United States and Canada. These resources include a range of selected core curricula and supplemental math titles. We welcome you to come by Booth 207 to peruse our Singapore Math® books and learn more the Singapore approach to teaching and learning mathematics.

T

Texas Instruments, Inc.

Booth: 316

Dallas, Texas
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<http://education.ti.com>

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ThinkThrough Math

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Pittsburgh, Pennsylvania
PH: 412-894-9935

<http://www.thinkthroughmath.com>

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W

Walch Education

Booth: 215

Portland, Maine
PH: 800-341-6094
<http://walch.com>

Walch Education extends and enhances learning with innovative, flexible solutions for middle school, high school, and beyond, addressing both Common Core and state standards. Walch is one of the leading publishers of Integrated Math courses for high school students, working in partnership with districts and states nationwide.

Western Governors University

Booth: 210

Salt Lake City, Utah
PH: 801-290-3636 866-225-5948
<http://www.wgu.edu>

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A

Abel, Adam 240
 Abel, Todd 240
 Addison, Jessica 237
 Allen Burns, Rhonda 40
 Anderson, Michele 45
 Anderson, Rick 168
 Andrews, Delise 63
 Ani, Karim 72, 87
 Anthony, Holly 26
 Ossey, Cindy 75
 Ashley, Kaitlin 6
 Ashurst, John 170
 Austin, Jim 106
 Axley, Jennifer 143

B

Balka, Don 78, 188
 Balke-Niehoff, Jill 48
 Barlow, Angela 129
 Barnes, David 39, 160
 Barrett, Jeffrey 91
 Barta, Kathleen 44, 136
 Battista, Michael 88
 Bay-Williams, Jennifer 124, 234
 Bellman, Allan 171
 Benton, Heather 99
 Beswick, Gloria 96
 Bintz, William 43
 Blanton, Maria 54
 Bokar, Anthony 60
 Booth, Ann 120
 Borenson and Associates
 38.2, 159.2
 Boswell, Laurie 180
 Bouck, Mary 146
 Bowers, Sharon 14
 Breyfogle, M. Lynn 139
 Briars, Diane 154
 Bridgman, Sue 190
 Britannica Digital Learning
 135.1
 Brooks, Shonda 207
 Brown, David 126
 Brown, Heather 145, 199
 Bryant, Diane 79
 Burgoa, Aaron 241
 Burrill, Gail 84, 217
 Bush, William 195

C

Cady, Jo 67
 Cameron, Antonia 20
 Campbell, Karen 231
 Carlin, Kevin 36
 Carmody, Heather 133
 Casa, Tutita 177
 Chamberlin, Scott 225
 Chapin, Suzanne 215
 Childs, Leigh 95
 Choate, Laura 66
 Chval, Kathryn 200
 Clements, Douglas 5

Cole, Shelbi 209
 Collins, Anne 8
 Colucci, Amy 89, 114
 Columba, Lynn 187
 Condon, Gregory 105
 Courtade, Ginevra 80
 Coyle, Erin 89, 113, 114
 CPM Educational Program
 62.2
 Cramer, Kathleen 69, 165
 Creative Mathematics 195.1
 Crisler, Nancy 73
 Crowe, Cheryll 45
 Culbertson, Diane 23, 197
 Curl, Cory 7
 Curtis, Joy 222

D

Daiga, Michael 48
 Danielson, Christopher 52
 Davis, Amanda 58
 Davis, Cindy 45
 DeLeeuw, Sarah 166
 Dickenson, Patricia 4
 Dickey, Ed 134
 Dickson, Shelley 184
 Diehl, John 121, 242
 Dillon, Fred 70, 112
 Dinah-Might
 Adventures 98.1, 183.2
 Dix, Leah 172
 Dixon, Juli 179
 Dodson, Dana 13
 Dominguez, Higinio 214
 Donaldson, Brianna 71
 Dougherty, Barbara 24, 203
 Driskell, Shannon 34
 Dykema, Kevin 152

E

Eames, Cheryl 10
 Edenfield, Kelly 132
 Edinger, Jeff 101
 Edwards, Michael 13
 Elam, Kimberly 100
 Emmert, Teresa 224
 Engelman, Jonathan 38
 Estapa, Anne 178
 Everett, Kari 16, 222
 Evitts, Thomas 81

F

Faetz, Melissa 235
 Faulkner, Julie 146
 Feikes, David 101
 Felling, Jane 228
 Fennell, Francis (Skip) 19, 64
 Fisher, Molly 150
 Foegen, Anne 24, 203
 Franz, Dana 183
 Fraser, Virginia 117
 Freedman, Reena 243
 Fujimoto, Tomoe 162

G

Gabbard, Alice 211
 Garner, Jami 67
 Gerdemann, Gail 44, 136
 Gojak, Linda 125, 173
 Graham, Karen 2, 123, 173, 232
 Green, Rebecca 105
 Greenes, Carole 191
 Gregson, Susan 21

H

Hall, Krista 224
 Hammett III, John 86, 109
 Harbin Miles, Ruth 78
 Harbour, Kristin 102
 Hardy, Michael 220
 Harkness, Shelly 21
 Harmon, Shannon 129
 Harper, Sallie 15
 Harper, Suzanne 34
 Hart, Lynn 219
 Hedges, Melissa 142
 Helser, Susan 157
 Helton, Mark 231
 Herman, Amy 25
 Herrelko, Janet 111
 Herron, Carrie 227
 Hildebrandt, Martha 201
 Hill, Robin 113
 Hill, Tiffany 42
 Hirsch, Christian 98
 Hodges, Mary 93
 Hodges, Tommy 2
 Holloway, Delaney 235
 Hopkins, Theresa 67
 Houghton Mifflin
 Harcourt 183.1
 Hughes, Lindsay 102
 Hull, Ted 78
 Hunt, Jane 56

I

Indeck, Ken 230
 Ingwersen, Erin 48
 Irons, Calvin 55
 Irons, Rosemary 127
 Ivy, Jessica 183
 IXL Learning 122.1

J

Jackson, Christa 108, 135
 Jacobs, Barbara 93
 Jewell, Linda 99
 Johnson, Amy 33
 Jones, Tammy 163
 Jong, Cindy 103, 135

K

Kanold, Timothy 148
 Kara, Melike 10
 Karp, Karen 11
 Karrass, Margaret 218

Kasten, Sarah 62
 Keller, Sarah 213
 Kelley, Karine 20
 Kendall Hunt Publishing
 Company 62.1
 Kennedy, Dan 182
 Kepner, Henry 112
 Kimery, Gina 41
 Kinney, Katie 6
 Knoell, Donna 17
 Kobett, Beth 64, 234
 Kodama, Hiroo 162
 Kolodey, Carla 176
 Kratky, James 3

L

Lamar, Ashley 240
 Lambdin, Diana 32
 Lancaster, Ron 61
 Lannin, John 42
 Larson, Matthew 1
 Laughlin, Connie 142
 Laurich, Lindsay 77
 Lee, Carl 195
 Leff, Becky 161
 Lehw, Amy 31
 Leinwand, Steven 28
 Lester, Frank 90, 210
 Lindebekke, Karen 83
 Lingo, Amy 11, 80
 Livers, Stefanie 164
 Losq, Christine 185
 Lott, Johnny 37
 Luke, Gregory 202
 Luke, William 202

M

Maesch, Mike 101
 Magruder, Robin 103
 Maloney, Alan 12, 116
 Matney, Gabriel 53
 Matney, Tami 53
 McCain, Jennifer 74
 McCoy, Ann 196
 McGatha, Maggie 234
 Mertens, Alanna 145, 199
 Meyer, Dan 51, 87
 Meyer, Holly 119
 Miller, Amanda 10
 Miller, April 74
 Miller, Maranda 135
 Mills, Valerie 30
 Milou, Eric 130
 Mitchell, Suzanne 208
 Mohr-Schroeder, Margaret
 108, 195
 Monck, Donna 167
 Monson, Debbie 69, 165
 Montgomery, Judith 4
 Moore, Carolyn 147
 Moore, Janet 144
 Moore, Jim 97
 Moore, Sara 43

Speaker Index

Moore, Tom 204
 Morgan, Gwen 75
 Morton, Crystal 110
 Moseley, L. 50
 Moser, Kelly 183
 Murphy, Stuart 151
 Murrey, Deandrea 189
 Myers, Paul 206

N

Neagoy, Monica 198
 Nebesniak, Amy 241
 Nickell, Jennifer 12, 36
 Nickerson, Rob 197
 Niess, Margaret 104
 Nivens, Ryan 82
 Noblitt, Bethany 62
 Norris, Kit 153

O

Odenwald, Sten 14
 O'Neal, Judy 122, 159
 O'Neill, Lauren 20
 Otten, Samuel 155

P

Parkey, Terry 96
 Parn, Laura 94, 123
 Parrish, Sherry 174
 Patterson, Kadie 46
 Patterson, Kyle 212
 Patterson, Lynn 46
 Pearson . . . 14.1, 14.2, 38.1, 135.2
 Peters, Susan 118
 Phillips, Elizabeth 35
 Polly, Drew 9, 31
 Porath, Jane 2

R

Rakes, Christopher 156
 Ray, Jenny 23
 Reardon, Tom 85
 Reilly, Theresa 169
 Reynolds, Jim 227
 Rhymes 'n' Times 195.2
 Richards, Stephanie 213
 Riddle, Allison 76
 Ronau, Robert 156
 Ross-Brown, Karen 27

Rowe, Marcia 212
 Russell, Donna 143
 Rutledge, Charles 137
 Ryan, Walter 226

S

Schack, Edna 150
 Scher, Daniel 115
 Scheuermann, Amy 22
 Schiffman, Jay 49
 Schneider, Erin 107
 Schoengrund, Kathy 90
 Schroeder, Craig 108
 Scott, Andrew 33
 Scott, Jan 29
 Sears, Ellen 138
 Sears, Tim 138
 Sgroi, Richard 192
 Shaughnessy, J. Michael 65
 Shaughnessy, Meghan 186
 Sheffield, Linda 149
 Shirley, Tory 15
 Slone, Katrina 137
 Smith, Gayle 239
 Snyder, Kelly 18
 Sonenshein, Charles 233
 Stamm, Vonda 40, 120
 Stanfield, Deedee 229
 Steketee, Scott 115
 Stone, Shannon 172
 Storeygard, Judy 92
 Stultz, Sherry 74
 Suters, Leslie 213
 Sutton, Kim 141
 Sweigart, Chris 102
 Swierczek, Derek 230
 Syrja, Rachel 216

T

Tang, Greg 68
 Texas, Leslie 163
 Texas Instruments 219.1
 The Math Learning Center . . 159.1
 Think Through Math 98.2
 Thomas, Jonathan 150
 Thomas, Lana 41
 Tillema, Erik 131
 Tondevoid, Christina 221
 Truhart, Regina 21
 Truitt, Tim 113, 181

U

Usiskin, Zalman 193

V

van Garderen, Delinda 42

W

Waddell, Suzanne 15
 Wade, Carol 205
 Waggoner, Debbie 224
 Walch Education 74.1
 Wall, Tammy 140
 Wallace, Ann 223
 Watkins, Jonathan 118
 Westendorf, Eric 87
 Whelan, Robyn 47
 White, Deborah 128
 White, Wade 123
 Whitney, Jeremy 80
 Wicks, Mandy 6
 Wiegand, Greg 83
 Wiegand, Melissa 83
 Wilder, Jamie-Marie 113
 Wilder, Sandra 236
 Wilkerson, Trena 175
 Williams, Kathryn 47
 Woodward, John 57
 Wray, Jon 19, 64, 87
 Wright, Alison 205

Y

Yates, Renee' 137
 Yeap, Ban Har 238
 Yigit, Melike 194

Z

Zamora, Ismael 121
 Zbiek, Rose 158
 Zollman, Alan 59
 Zuiker, Mark 22

Program Advertisers

(in alphabetical order)

Borenson & Associates COUPON on 85; Ads 19, 45
 Heinemann 8
 Math Learning Center 10
 Mu Alpha Theta 13
 EasyWorksheet.com 52
 Origo Education COUPON on 87
 Qwizdom COUPON on 85
 Renaissance Learning COUPON on 85
 Singapore Math Outside Back Cover
 Texas Instruments Inside Front Cover

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PROFESSIONAL DEVELOPMENT

2014 Common Core Institutes 80
 2014 New Orleans Annual Inside Back Cover
 2014 Regional Conferences 36

MEMBERSHIP

Member Showcase COUPON on 87; Ad on 54

PUBLICATIONS

Bookstore COUPON on 87
 MOTO 62
 New Books 49



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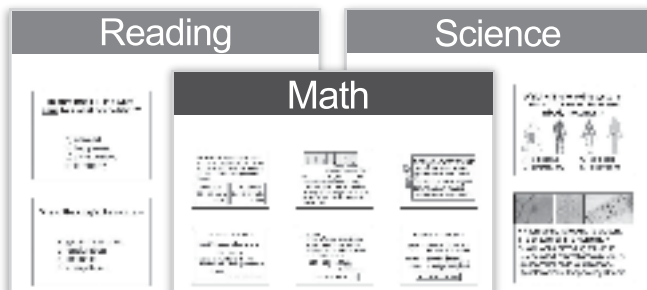
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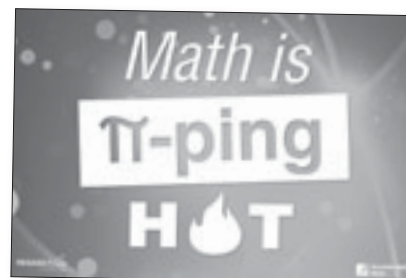
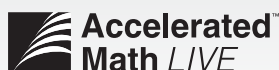
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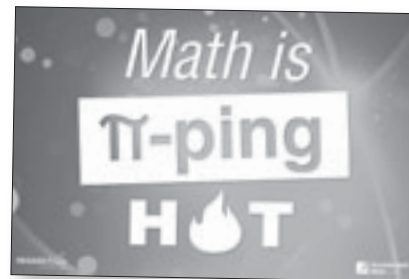
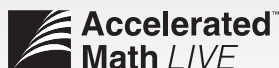
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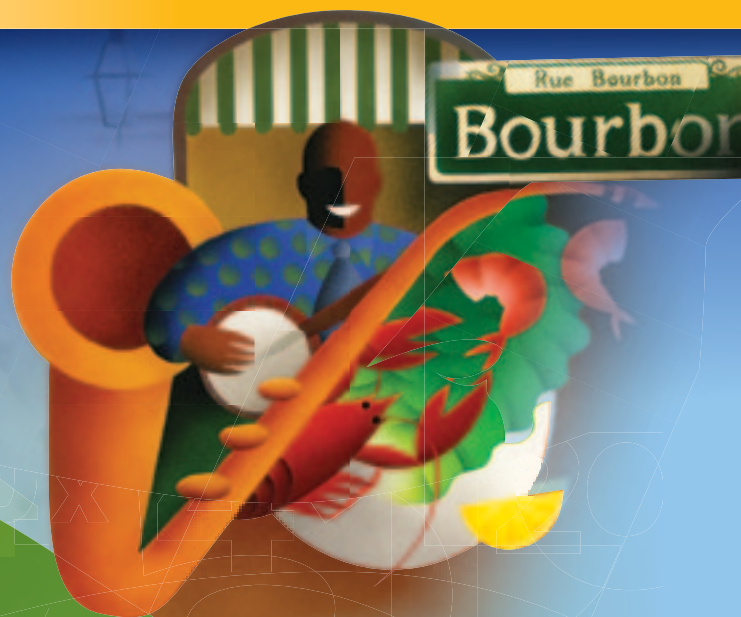
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