SHINING THE LIGHT ON LEARNING

A VISION FOR MATHEMATICS LEADERS!

LEADERSHIP IN MATHEMATICS EDUCATION

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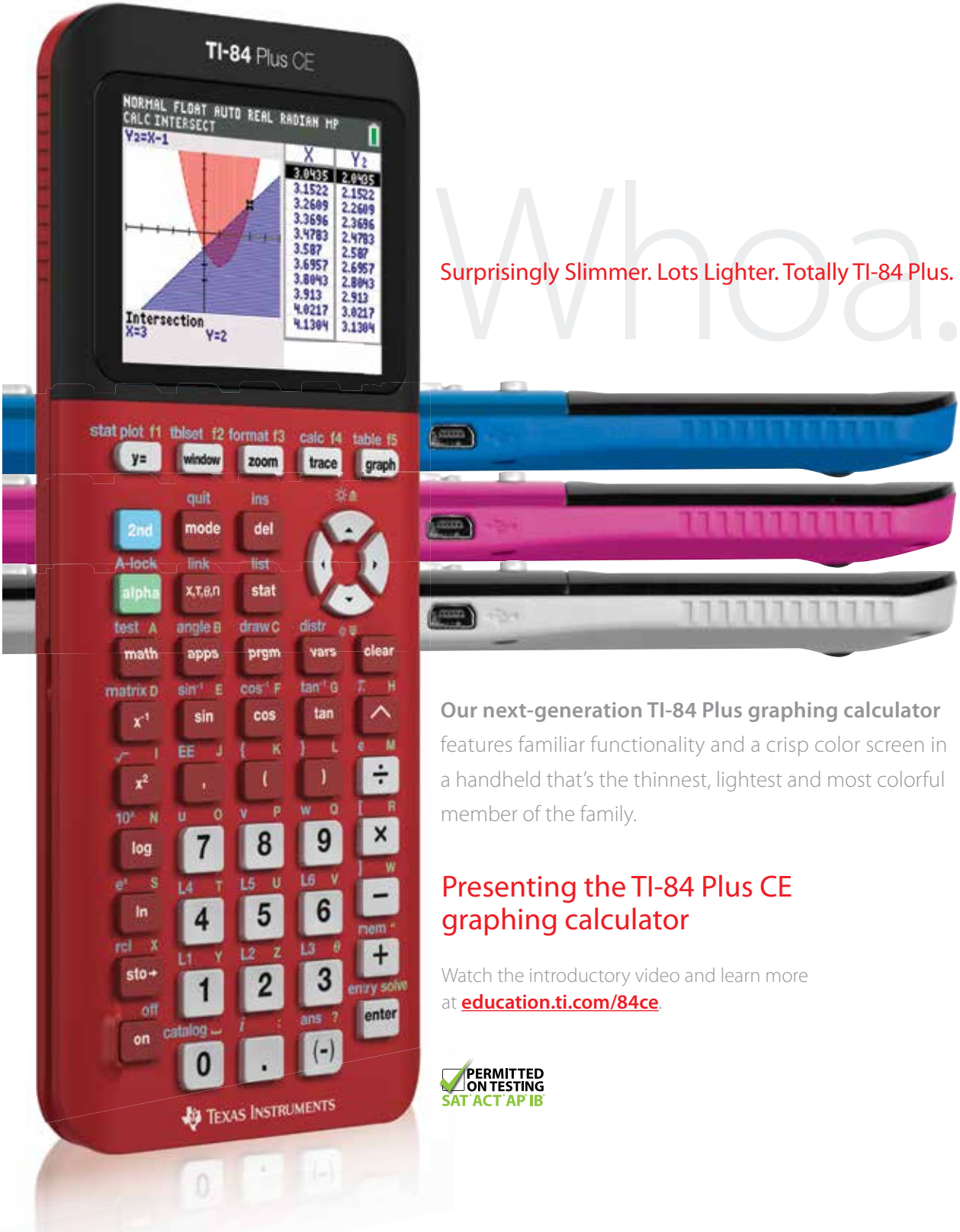
NCSM 47th Annual Conference
April 13-15, 2015 • Boston



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SHINING THE LIGHT ON LEARNING
A Vision For Mathematics Leaders
47th NCSM Annual Conference
April 13-15, 2015 • Boston, Massachusetts

REGISTRATION

Registration takes place at the registration booth, Level 1 in the North East Lobby area, of the Boston Convention and Exhibit Center, are at the following times:

Sunday, April 12, 2:00 pm – 6:00 pm
Monday, April 13, 7:00 am – 5:00 pm
Tuesday, April 14, 7:00 am – 5:00 pm
Wednesday, April 15, 7:30 am – 10:30 am

SPONSOR DISPLAY AREA

Visit Sponsors and engage in stimulating professional dialogue with colleagues in the Exhibit Hall B1 of the Boston Convention and Exhibit Center, during the following times:

Monday, April 13 – 9:00 am to 5:30 pm
Tuesday, April 14 – 8:30 am to 4:00 pm

NCSM BUSINESS MEETING

The Business Meeting will be held on Tuesday, April 14 at 4:30 pm to 5:15 pm in 151AB of the Boston Convention and Exhibit Center. All members are invited and encouraged to attend and learn about the "State of the Organization" and opportunities for getting involved in NCSM.

CAUCUSES

Caucuses for NCSM regions, International attendees, and Past Presidents will be held Tuesday afternoon, April 14, at 3:30 pm – 4:15 pm. Details and a full schedule of caucuses are found at the end of Tuesday sessions.

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PRESIDENT'S MESSAGE

Welcome to Boston and NCSM's 47th Annual Conference:
SHINING THE LIGHT ON LEARNING

On behalf of the NCSM Board of Directors and the Boston Conference Committee, it is my pleasure to welcome you to this year's meetings and invite you to join us as we work to illuminate a powerful and productive vision of leadership for mathematics!

This year's theme, *SHINING THE LIGHT ON LEARNING*: *A Vision for Mathematics Leaders* is designed to reflect the program's many bright rich professional learning experiences. It features an exciting mix of nearly 300 sessions given by mathematics education's most influential, provoking, and knowledgeable speakers. Sessions are organized around five critical topics including:

- *Leading instruction to leverage the mathematical practices for increased achievement*
- *Examining the opportunities and challenges of using technology to support teaching and learning mathematics*
- *Advancing formative assessment as an integral tool for understanding student thinking and guiding instruction*
- *Exploring strategies and tools for leaders and coaches to support mathematics learning*
- *Shifting practices to effectively implement the Common Core State Standards: Improving equity achievement for all learners with focus, rigor, and depth*

Whether you choose to sample sessions from each strand or dive deeply into one area, we believe we have created a flexible and powerful learning context that will fuel your leadership needs over the next 12 months.

In addition to the opportunities built into this year's conference strands, you will find that sessions on interpreting and implementing the *Common Core State Standards in Mathematics* and on preparing for the associated PARCC and SBAC assessments have been woven into each of the major strands. I would also invite you to pay special attention to the new resources that NCSM is releasing during the annual conference this year including*:*

- new elementary *Three-Act Videos* modules are being added to the current collection of annotated lessons that focus on mathematical modeling,
- new *Formative Assessment Jump Start modules,* expanding the collection of professional learning modules focused on formative assessment, and
- the launch of *Iris,* a joint NCSM-CoSN digital initiative for mathematics education leaders, with the publication of a powerful white paper entitled *Mathematics Education in the Digital Age*.

Sessions during the conference will introduce you to each of these exciting new resources, all of which are *free* to NCSM members.

This year NCSM is continuing its collaboration with the NCTM Research Advisory Committee to provide joint sessions of interest to both practitioners and researchers. Selected sessions are open to registered attendees at both the NCSM Annual Conference and the NCTM Research Pre-Session on Wednesday at no additional charge.

As mathematics education leaders, we work continuously to improve our own professional practice so that we can better support and lead others. The 47th NCSM Annual Conference is designed to further your professional growth with a shared learning and leading experience that will inspire, educate, and better connect each of us to our vibrant community of national and international leaders in mathematics education.

Thank you for joining us for another wonderful NCSM Annual Conference!

Sincerely,

Valerie L. Mills

Valerie Mills
President

WELCOME TO BOSTON AND THE 47TH NCSM ANNUAL CONFERENCE

We are glad you have joined us for the 47th Annual Conference. These three days promise to be an exciting learning experience, offering you an opportunity to take advantage of over 300 sessions and events including:

Monday, April 13, 2015

- Join us from 7:15 am to 8:00 am in Exhibit Hall B1 NW for a Continental Breakfast sponsored by MIND Research Institute. *This is not a ticketed event.*
- The First-Timers welcome sessions will be provided for attendees at 7:30 am to 8:00 am or 5:15 pm to 5:45 pm in 156A.
- Monday morning's Opening Session with Valerie Mills, NCSM President and Connie Schrock, Program Chair. Welcoming remarks by Martin J. Walsh, Mayor of Boston, MA.
- Keynote Address by Dr. Jo Boaler of Stanford University presenting *The Mathematics Learning Revolution—and What It Means For Our Work As Teacher Leaders.*
- There are a variety of Major Speakers, Spotlight Speakers, Sponsor Showcases, Technology Showcases, and regular sessions that address the conference strands across different grade levels, beginning at 9:30 am.
- A special Coaching Session Kick-Off will be offered at 9:30 am in 156C for coaches, specialists, and teacher leaders.
- Elite Sponsor Displays in Exhibit Hall B1 of the Boston Convention and Exhibit Center.
- There is a ticketed lunch from 12:00 pm to 1:15 pm, partially sponsored by Math Teachers Press.
- First session of Hot Topics will be from 3:00 pm to 3:45 p.m., located in Exhibit Hall B1 – discuss important topics for leaders in mathematics.
- NCSM State/Provincial Leaders Meeting with Regional Directors will be at 4:00 pm in 151AB
- See a special performance, sponsored by Pearson at 5:05 pm in 107AB by *The Main Street Kids' Club: A MathStart Musical*
- The day ends with a ticketed reception at 5:30 pm sponsored by Redbird Advanced Learning.

Tuesday, April 14, 2015

- The first event is a ticketed breakfast sponsored by Scholastic. If you did not receive a ticket you may come in and hear the speaker.
- The day continues with numerous sessions and powerful speakers, as well as another opportunity to visit the Sponsor Display Area that is open until 4:00 pm.
- Hot Topics will be in Exhibit Hall B1 from 10:15 am to 11:00 am – an opportunity to visit with a number of the major speakers.
- A ticketed luncheon is offered at 12:30 pm to 2:00 pm, compliments of Texas Instruments.
- The afternoon brings another round of sessions, followed by NCSM Caucuses and the Business Meeting. At your Regional Caucus meeting you will meet your NCSM Regional Director and visit with other conference attendees from your region. At the NCSM Business meeting in 151AB you will have the opportunity to hear about the "State of the Organization" and honor the new Affiliates as they receive their official charters.
- The day ends with a ticketed reception at 5:30 pm sponsored by Discovery Education.

Wednesday, April 15, 2015

- The first event is a ticketed breakfast sponsored by Pearson. If you did not receive a ticket you may come in to hear the speaker.
- The morning continues with a full complement of Major Speakers, Spotlight Speakers, and regular sessions.
- There is a ticketed luncheon from 12:15 pm to 2:00 pm, compliments of McGraw Hill and Think Through Math.
- The afternoon includes two additional rounds of sessions as well as Special Interest Group (SIG) meetings until 4:30 pm.

We want to thank:

- Our sponsors for breakfasts, lunches, receptions and a variety of other support;
- The conference committee is grateful to all those whose interest and efforts help to make the conference a rewarding experience for all who attend;
- Those who submitted proposals to speak for your willingness to share your ideas and experience with your colleagues;
- Program Proposal Reviewers for your time and efforts in carefully reviewing the many proposals that were submitted for the program;
- On-Site Program Committee for supporting our speakers and taking care of their on-site needs;
- Local Support Committee for helping to ensure a smooth-running conference;
- Volunteers for graciously giving of their time;
- NCTM Conference Services and the Conference Staff of the Boston Convention and Exhibit Center, for supporting logistics and on-site needs;
- NCSM Office for their support throughout the planning process and "in the moment" at the conference, helping make things run ever-so-smoothly. Thank you!

Dianne DeMille
2015 Conference Coordinator
Anaheim, CA

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Program Chair, 1st Vice President
Emporia, KS

Beverly Kimes
Recruitment & Volunteer Chair, 2nd Vice President
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Valerie Mills
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Local Arrangements Chair
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Christine Moynihan
Holliston, MA

Leanna Russell
Whitman, MA

Joan Trainer
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Steve Yurek
Cambridge, MA

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West Bath, MN

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Plymouth, MA

John Wolfe
Ossining, NY

PROGRAM OVERVIEW

Strands

1. **Leading instruction to leverage the mathematics practices for increased achievement—**The focus will be on how leaders can help increase student achievement by facilitating teachers' implementation of the Mathematical Practices in their classrooms.
2. **Examining the opportunities and challenges of using technology to support teaching and learning mathematics—**The focus will be on examples and suggestions of technology uses that successfully support student learning and/or challenges that accompany technology use and how they might be overcome - more than simply how to use the technological tool.
3. **Advancing formative assessment as an integral tool for understanding student thinking and guiding instruction—**This strand will focus on how to use assessment as an integral tool for improved instruction.
4. **Exploring strategies and tools for mathematics leaders and coaches to support mathematics learning—**This strand will focus on successful approaches to help new and veteran leaders increase student learning and understanding.
5. **Shifting practices to effectively implement the *Common Core State Standards*; equity for all learners with focus, rigor, and depth—**This strand will include equity topics with a specific interest in the shifts suggested by the *Common Core State Standards*. Even if your state is not participating in *CCSS*, there are components of the shifts that are important for improving student learning.

Visit the NCSM Website at *mathedleadership.org* for the latest information and complete listing of conference sessions.

SESSION TYPES

- Opening Session with Keynote Address—Monday morning
- NCSM State/Provincial Leaders Meeting—Monday afternoon
- Hot Topics Café—Monday afternoon and Tuesday morning
- NCSM Annual Business Meeting— Tuesday afternoon
- NCSM Caucus Sessions—Tuesday afternoon
- Major Sessions—Monday, Tuesday, and Wednesday
- Spotlight Sessions—Monday, Tuesday, and Wednesday
- Regular Sessions—Monday, Tuesday, and Wednesday
- Sponsor Showcases—Monday, Tuesday, and Wednesday
- Technology Showcases—Monday and Tuesday
- Special Interest Group Meetings—Wednesday afternoon

Nominate a leader in mathematics education for the *Ross Taylor/Glenn Gilbert National Leadership Award.* See details in the section: About *NCSM.*

Attend your Regional Caucus on Tuesday afternoon. In the section at the end of Tuesday sessions.

Look for an email next week inviting you to complete the *Online Conference Feedback Survey.*

Support the *Iris Carl Mathematics Leadership Fund.* See the section: About *NCSM* for more information.

GENERAL INFORMATION

Emergency Information

Call 911 for any medical emergencies.

Fire Code

Fire Code regulations apply to all conference session rooms. Sessions will be closed when seating capacity is reached. Regulations require that there is no standing, no sitting on the floor, and no moving of chairs from one room to another. We appreciate your cooperation in this matter.

Session Seating

Rooms have been set to conform to Fire Code. As per fire marshal orders, only those seated in chairs will be allowed to remain in the meeting rooms. Seating at all sessions is on a first-come, first-served basis. Seating capacities for the rooms are listed on the colored summary pages for each day in this program book.

Non-Smoking Policy

The Annual Conference is a non-smoking event. Those who wish to smoke must do so outside the buildings in designated smoking areas.

Conference Badges and Bags

2015 Annual Conference name badges must be worn by attendees for admittance to conference sessions, meal functions, and the sponsor display area. One NCSM Conference bag is given to each registered participant as long as supplies last. Replacement bags and extra bags will not be distributed at the conference.

Conference Planner

A conference planner, located at the back of the program, is for your use in choosing a schedule of sessions and events to attend. Because all rooms have a limited seating capacity, it is suggested that you select at least one alternate session for each time slot in case your first choice is full. This information will also be available on the Conference App.

Tips for a Successful Conference

If this is your first Annual Conference, be sure to attend one of the 30-minute First Timer's Sessions in 156A either Monday morning at 7:30 am, prior to the Opening Session/ Keynote (pick up your breakfast before the session), or at the end of the day on Monday at 5:15 pm, just prior to the Redbird Advanced Learning Sponsored Reception. Special Gifts are planned for all first-timers attending these sessions.

- Attend one of the First Timer's Sessions on Monday 7:00 am or 5:15 pm in 156A
- Become familiar with the locations of the session rooms and other conference venues
- Visit the Sponsor Display Area in the Exhibit Hall B1 of the Boston Convention and Exhibit Center, on Monday or Tuesday
- Use the Conference Planner (at the back of this program) to outline your daily schedule
- Network with colleagues and share experiences about the different sessions you attend
- Turn off cell phones during sessions and functions
- Attend the Technology Showcases in 154 and Sponsor Showcases in 157B of the Boston Convention and Exhibit Center to learn about the latest in educational products and materials

Session Changes

The listings in this program book represent the latest conference information (as of publication) and supersede all previously printed information. Be sure to also check the Program Addendum included in your conference bag and use the Conference App for any last-minute revisions. NCSM reserves the right to change speakers, facilities, or program content at any time.

Conference APP

We are very excited to announce the Conference App will be available to all attendees at the 2015 Annual Conference in Boston. This App will give you the ability to have the entire program available at your fingertips electronically on your cell phone, iPad, tablet, or computer with FREE WIFI ACCESS. It will also allow you to plan and schedule your sessions and take notes right in the App. Look for details in your conference bag and posted at registration to have immediate access to this great experience.

Taping, Recording, or Photographing Sessions

Written permission to tape, record, or photograph sessions must be obtained directly from the speaker(s) before the session begins. The request must contain a statement indicating the intended use of such a tape, recording, or photograph as well as your name and contact information. A copy of the request should be given to the lead speaker.

NCSM Business Meeting

The NCSM Business Meeting will be held on Tuesday, April 14 at 4:30 pm to 5:15 pm in 151 AB of the Boston Convention and Exhibit Center. All members are invited and encouraged to attend and learn about the "State of the Organization" and opportunities for getting involved in NCSM.

Caucuses

Caucuses for NCSM regions, International attendees, and Past Presidents will be held Tuesday afternoon, April 14, 3:30 pm to 4:15 pm. Details and a full schedule of caucuses are found at the end of Tuesday sessions.

The Caucuses are perfect opportunities for all conference attendees to network, collaborate, and communicate within each NCSM region. During the sessions, participants will:

- Identify and discuss national issues
- Enhance leadership capacity
- Share information on opportunities for Professional Development for math leaders
- Enjoy networking among members from their region
- Explore avenues for becoming a contributing active member of NCSM!

GENERAL INFORMATION

Use the Conference Planner (at the back of this program) to outline your daily schedule.

Commercial Sessions

The conference program includes two types of commercial sessions that have become an integral part of the educational services NCSM provides conference attendees. These sessions will be held in 154 & 157B of the Boston Convention and Exhibit Center.

- **Sponsor Showcases** are provided by Elite Sponsors to share information about their products and materials.
- **Technology Showcases** focus on the latest products related to the use of technology in mathematics education.

Sponsor Display Area

The Sponsor Display Area has become an integral part of the educational services NCSM provides conference attendees. Attendees can examine current resources, explore trends and practices, review products and services, and engage in discussion with NCSM's sponsors. Be sure to make time in your schedule to visit the NCSM Sponsor Display Area in Exhibit Hall B1 of the Boston Convention and Exhibit Center. Wear your conference name badge to gain entrance.

Hours: Monday, April 13 – 9:00 am to 5:30 pm
Tuesday, April 14 – 8:30 am to 4:00 pm

Attendees following a particular Strand can visit the displays during the following times as there will be no sessions scheduled for these strands during these time periods:

Monday

10:45 am to 11:45 am	**1. Leading instruction to leverage the mathematics practices for increased achievement**
1:30 pm to 2:30 pm	**2. Examining the opportunities and challenges of using technology to support teaching and learning mathematics**
4:00 pm to 5:00 pm	**5. Shifting practices to effectively implement the Common Core State Standards; equity for all learners with focus, rigor, and depth**

Tuesday

11:15 am to 12:15 pm	**4. Exploring strategies and tools for mathematics leaders and coaches to support mathematics learning**
2:15 pm to 3:15 pm	**3. Advancing formative assessment as an integral tool for understanding student thinking and guiding instruction**

NCSM ANNUAL CONFERENCE SPONSORS

Many sponsors generously support NCSM and its membership throughout the year. Acknowledgement of all NCSM Sponsors for their contributions can be found at the back of this program.

We thank the following sponsors for their contributions to events related to *the Annual Conference.*

- Conference Bags – **Pearson**
- Conference Neck Wallet – **Scholastic Inc.**
- Conference Program Book Printing Support – **TenMarks TenMarks, An Amazon Company**
- Conference Signage – **ExploreLearning & TenMarks Education, Inc.**
- Gift: Memo Leatherette Folio – **EAI Education**
- Gift Certificates (100) – **ETA hand2mind**
- Gift: Promotional Gift for Leadership Academies – **EAI Education, The Markerboard People, Numbersbee, Origo**
- Iris Carl Travel Grant – **ORIGO Education, Inc.**
- Literary Gift – **Curriculum Associates, Math Solutions**
- Memberships and Registration – **(13) ORIGO Education, Inc., and (5) Math Forum@Drexel**
- Sunday Bag Stuffing Refreshments – **ETA hand2mind**
- Volunteer T-shirts – **CASIO America, Inc.**
- Monday Continental Breakfast – **MIND Research Institute**
- Monday Luncheon – Co-Sponsor is **Math Teachers Press, Inc.**
- Monday State Leaders Meeting Refreshments – **ETA hand2mind**
- Monday Evening Reception – **Redbird Advanced Learning**
- Tuesday Breakfast – **Scholastic Inc.**
- Tuesday Luncheon – **Texas Instruments**
- Tuesday Evening Reception – **Discovery Education**
- Wednesday Breakfast – **Pearson**
- Wednesday Lunch – **McGraw Hill & Think Through Math**

Ticketed Functions

Attendees with tickets for meals and reception are encouraged to enter the function within the first 30 minutes. After 30 minutes, the "wait line" for those who do not have tickets will be allowed to enter to fill empty seats. Monday lunch will be sandwiches that may be picked up and taken to a session, or you can eat in Exhibit Hall B1 NW for a presentation by Sonja Goerdt.

Frequently Asked Questions

Are meal function tickets automatically included in my registration?

Meal functions are not included in the conference registration fee. Some of our sponsor partners graciously agree to host a meal function and provide a certain number of meals within their budget. If a seat was available for a function you selected when you registered, an admission ticket was provided in your registration packet.

I have a meal ticket. Does that guarantee me a seat no matter what time I show up? If you have a ticket, don't be late! Experience has shown that some people with tickets opt to make other plans at the last minute. In order to allow as many attendees as possible to enjoy the meal functions, when the ticketed line goes through, the waiting line will follow as soon as possible. If you are late, you may not get the meal for which you have a ticket.

What do I do with a meal function ticket I have, that I no longer need? You may turn in any tickets you won't use to the Conference Registration booth on Level 1 in the North East Lobby area, of the Boston Convention and Exhibit Center. This will enable someone without a ticket to get into the event. You may also hand extra tickets to any NCSM Board Member at any time during the conference.

Is there a waiting list/waiting line for meal functions? Again this year, those without tickets may wait in the special line that will form to the side of the ticketed line. The waiting line will be permitted to enter based on the available seats once the ticketed line goes through and the start time for the function is reached. Depending on the function, there is generally a good chance of getting in, especially if you get in line early!

Special Interest Group Meetings

A number of educational groups participate in NCSM's Special Interest Group (SIG) meetings scheduled on Wednesday afternoon. Check your program for times and locations. This year's SIG topics are:

- Mathematics Teaching and Learning: What's Happening in AMTE and How Can AMTE Support Your Work with Teachers?
- International Perspectives on Supporting Mathematics Teaching and Learning (U.S. NC MI)
- Online Collaborative Technology (Social Media) in the Mathematics Classroom—Moving Forward
- TODOS: Mathematics for ALL—Focusing on the Mathematics Education of Latina/o Students and Other Underrepresented Groups

NEW THIS YEAR!

Spotlight speakers are featured speakers with a larger room. These speakers have shared with us often at NCSM and always have important information to share.

Student Recognition Certificates

NCSM provides certificates as a means of honoring students who excel in the study of mathematics. All public, private, and parochial schools, as well as colleges and universities, that have at least one NCSM member on the faculty, are eligible to participate. Each school may receive up to two awards per year. Pick up certificates at the registration booth. More information about these certificates is available at mathedleadership.org.

Conference Feedback

You will receive an email in the week following the conference inviting you to share your feedback with the conference committee. We encourage you to take the time to complete the online survey, as your thoughts and opinions will be helpful to the planners of the 48th Annual Conference to be held in the Bay Area, California, April 11–13, 2016.

Lost and Found

If you find an item you believe belongs to someone attending the NCSM Conference, please bring it to the NCSM registration booth on Level 1 in the North East Lobby area, of the Boston Convention and Exhibit Center. Articles will be held there until 10:30 am on Wednesday, at which time they will be turned over to the Boston Convention and Exhibit Center.

NCSM Bookstore, Membership Booth, and Coaching Table

Located on Level 1 in the North East Lobby area, of the Boston Convention and Exhibit Center. The Bookstore, Membership Booth, and Coaching Table hours are Sunday, April 12, 2:00–5:00 pm, Monday, April 13, 9:00 am–5:00 pm, and Tuesday, April 14, 8:30 am–4:00 pm. Bring your NCSM Gift Card to redeem your special gift at the Membership Booth. We have many NCSM publications and other items to support your leadership role.

Don't leave Boston without picking up your favorite NCTM book. Join us at the Bookstore where you can purchase NCSM publications, books and articles by some of our speakers and select NCTM publications to add to your professional library.

NCTM Sessions and Bookstore

NCSM registrants wearing their NCSM Conference badges are welcome to attend these NCTM Research Session events:

- Opening Session on Wednesday evening, April 13 at 7:00 pm in the Boston Convention and Exhibit Center
- Wednesday Research Pre-Sessions at the Boston Convention and Exhibit Center
- The NCTM Bookstore is open to all NCSM registrants on Wednesday, April 15 from 10:00 am to 5:00 pm for registrants wearing their NCSM Conference badges.

HOT TOPICS CONVERSATION CAFÉ NETWORKING AND ROUND TABLE DISCUSSIONS

Stop by the Hot Topic tables located in the center of the Sponsor Display Area in Exhibit Hall B1 of the Boston Convention and Exhibit Center to join casual conversations with many of the Major Speakers on Monday from 3:00 pm to 3:45 pm and Tuesday from 10:15 am to 11:00 am. Topics of interest to mathematics education leaders will include: establishing a coaching culture, access and equity, why students don't know their basic facts, importance of growth mindset, balancing understanding and fluency, and more.

2015 CONFERENCE SCHEDULE OVERVIEW

Note: Commercial Sessions = Sponsor Showcases & Technology Showcases • All Sessions – ***Boston Exhibit and Conference Center***

Date & Time	Event	Location
Monday, April 13		
7:00 am – 5:00 pm	**Advance & On-Site Registration**	**NE Lobby Level 1**
7:30 am – 8:00 am	**First-Timers Session – Special Gifts**	**Level 1, 156A**
7:15 am – 8:00 am	**Complimentary Continental Breakfast – MIND Research Institute** (NO Ticket Required)	**Exhibit Hall B1-NW**
8:00 am – 9:15am	**Opening Session & Keynote** – Jo Boaler	**Exhibit Hall B1-NW**
9:00 am – 5:30 pm	**Sponsor Displays**	**Exhibit Hall B1-NE**
9:00 am – 5:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	**NE Lobby Level 1**
9:30 am – 11:45 am	**Major, Spotlight, and Regular Sessions**	**Level 1**
9:30 am – 11:45 am	**Commercial Sessions**	**Level 1, 154 & 157B**
12:00 pm – 1:15 pm	**Lunch – Partially funded by Math Teachers Press** (Ticket Required)	**Exhibit Hall B1-NW**
12:15 pm – 5:00 pm	**Major, Spotlight, and Regular Sessions**	**Levels 1**
12:15 pm – 5:00 pm	**Commercial Sessions**	**Level 1, 154 & 157B**
3:00 pm – 3:45 pm	**Hot Topic Café**	**Exhibit Hall B1-NE**
4:00 pm – 5:00 pm	**NCSM State/Provincial Leaders Meeting**	**Level 1, 151AB**
5:05 pm – 5:30 pm	**Special Performance, Pearson –** *The Main Street Kids' Club: A MathStart Musical*	**Level 1, 107AB**
5:15 pm – 5:45 pm	**First-Timers Session –** Special Gifts	**Level 1, 156A**
5:30 pm – 7:00 pm	**Reception – Redbird Advanced Learning** (Ticket Required)	**Level 3, Ballroom Lobby**
Tuesday, April 14		
7:00 am – 5:00 pm	**Advance & On-Site Registration**	**NE Lobby Level 1**
7:30 am – 8:30 am	**Breakfast – Scholastic, Inc.** (Ticket Required)	**Exhibit Hall B1-NW**
8:30 am – 4:00 pm	**Sponsor Displays**	**Exhibit Hall B1-NE**
8:30 am – 4:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	**NE Lobby Level 1**
8:45 am – 12:15 pm	**Major, Spotlight, and Regular Sessions**	**Level 1**
8:45 am – 12:15 pm	**Commercial Sessions**	**Level 1, 154 & 157B**
10:15 am – 11:00 am	**Hot Topic Café**	**Exhibit Hall B1-NE**
12:30 pm – 2:00 pm	**Luncheon – Texas Instruments** (Ticket Required)	**Exhibit Hall B1-NW**
2:15 pm – 5:00 pm	**Major, Spotlight, and Regular Sessions**	**Level 1**
2:15 pm – 3:15 pm	**Commercial Sessions**	**Level 1, 154 & 157B**
3:30 pm – 4:15 pm	**Caucus Meetings**	**Level 1**
4:30 pm – 5:15 pm	**NCSM Business Meeting & State of the Organization Report**	**Level 1, 151AB**
5:30 pm – 7:00 pm	**Reception – Discovery Education** (Ticket Required)	**Level 3, Ballroom Lobby**
Wednesday, April 15		
7:30 am – 10:30 am	**Advance & On-Site Registration**	**NE Lobby Level 1**
7:30 am – 8:30 am	**Breakfast – Pearson** (Ticket Required)	**Exhibit Hall B1-NW**
8:45 am – 12:15 pm	**Major, Spotlight, and Regular Sessions**	**Level 1**
12:30 pm – 2:30 pm	**Luncheon – McGraw-Hill & Think Through Math** (Ticket Required)	**Exhibit Hall B1-NW**
2:15 pm – 4:30 pm	**Major, Spotlight, SIGs, and Regular Sessions**	**Level 1**

NOTES

MONDAY PROGRAM

Continental Breakfast – Compliments of ***MIND Research Institute*** *(ticket not required)* in the **Meals & Functions Area** of Exhibit Hall B1 of the Boston Conference & Exhibit Center

Opening Session & Keynote Address following Continental Breakfast Level One Meals and Functions Area of B1 Exhibit Hall of the Boston Convention and Exhibit Center

Session Types:

First-Timers' Sessions (Special Gifts for First-Timer Attendees)
Major Sessions
Spotlight Sessions
Regular Sessions
Hot Topic Conversation Café
Commercial Sessions:
- Sponsor Showcases
- Technology Showcases

NCSM State/Provincial Leaders Meeting at 4:00 pm in room 151AB

Ticketed Events:

Lunch – Co-Sponsored by **Math Teachers Press** (ticket required)
Meals & Functions Area of Exhibit Hall B1 of the Boston Conference & Exhibit Center

Reception – Sponsored by **Redbird Advanced Learning** (ticket required).
Ballroom Lobby of the Boston Conference & Exhibit Center

Sponsor Displays

9:00 am – 5:30 pm in the Exhibit Hall B1of the Boston Convention and Exhibit Center

Registration

7:00 am – 5:00 pm Level 1 in the North East Lobby area of the Boston Convention & Exhibit Center

Use the Conference Planner at the end of this book to outline your daily schedule.

Wear your NCSM Conference Name Badge to gain entrance to sessions, ticketed events, and the sponsor display area.

Please obey Fire Code standards in sessions—No standing; no sitting on the floor; no moving of chairs from one room to another.

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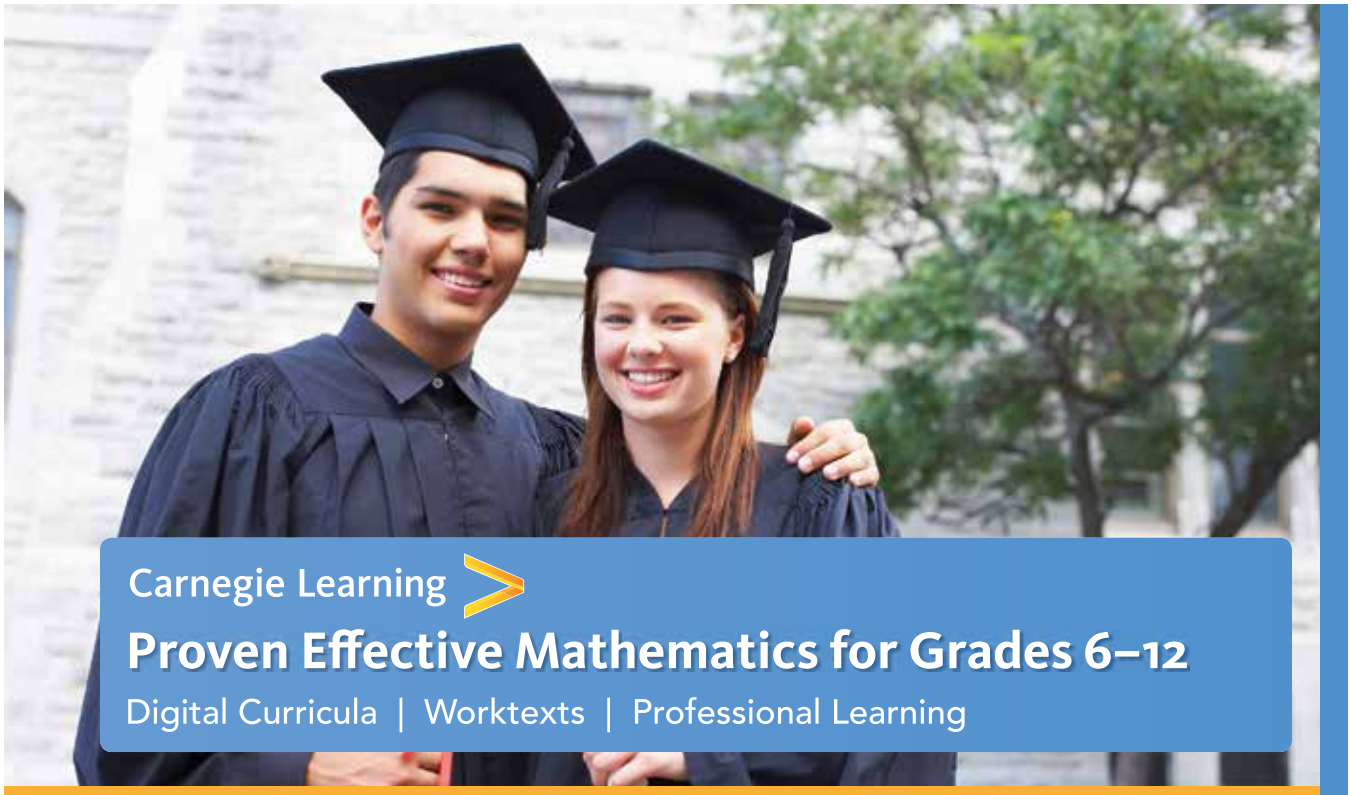

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PROGRAM SUMMARY INFORMATION FOR MONDAY, APRIL 13

See page 5 for Conference Strand descriptions.

NOTES

MONDAY SUMMARY

7:30-8:30: Session 080: Continental Breakfast (no ticket required), Sponsored by *MIND Research,* Exhibit Hall B1 NW
7:30-8:00: Session 081: Conference Orientation, 156 A
8:00-8:30: Session 082: Opening Session: Welcome, Valerie Mills, Connie Schrock, Boston Mayor, Martin J. Walsh, Exhibit Hall B1 NW
8:30-9:15: Session 083: Keynote Speaker, Jo Boaler, Exhibit Hall B1 NW

	104 ABC	103	105	106	107 A	107 BC
9:30-10:30	**Session 084** Strand 3, General ***Silver,*** *Wedding Formative Assessment to Mathematics Instrucitonal Frameworks: Something Old, Something New*	**Session 085** Strand 4, Elementary (K-5) ***Gilbertson, Smith, Stehr, Satyam,*** *Fraction Multiplication and Division Using Hands-On Measurement Models*	**Session 086** Strand 4, General ***Lynch, Gagnon,*** *Let's Visit Classrooms: Empowering Teacher Collaboration*	**Session 087** Strand 1, Elementary (K-5) ***Smith, Brady,*** *Learning to Love the Common Core*	**Session 088** Strand 4, Secondary (6-12) ***Mikles,*** *Study Team and Teaching Strategies: Getting Teams to Work Effectively in Class*	**Session 089** Strand 5, Intermediate (3-5) ***Russell, Zimmerman,*** *How "Lingering" on Ideas about the Meaning of the Operations Can Include All Students in Significant Learning*
10:45-11:45	**Session 102** Strand 4, General ***Lampert,*** *Coaching the Rehearsal of an Instructional Activity: The Tension Between Focus and Complexity*	**Session 103** Strand 4, General ***Swarthout, Bohan,*** *Igniting Excellence: Creating Teacher Mentors to Fight the Mathematical Darkness*	**Session 104** Strand 2, High School (9-12) ***Slovin, Zenigami, Olson, Olson, Venenciano,*** *Empowering Teachers Through Ongoing Personal Self-Sustaining Professional Development*	**Session 105** Strand 3, General ***Creighton, Fagan, Tobey,*** *Helping Students and Teachers Learn to Implement Formative Assessment Practices: Research Headlines, Resources and Tools*	**Session 106** Strand 5, Elementary (K-5) ***Ware, Hart, Masick, Nolan,*** *Yes! Implementing a Collaborative Planning Cycle Enables Students with Disabilities to Succeed in Grade-Level Math!*	**Session 107** Strand 4, Secondary (6-12) ***Burrill,*** *Selecting and Adapting Tasks: Implementing the Mathematical Practices*

12:00-1:15: Session 120: Lunch (ticket required), Sponsored by Math Teachers Press, Exhibit Hall B1 NW

12:15-1:15	**Session 121** Strand 4, General ***Chval, Stephan, Herbel-Eisenmann, Fish,*** *Grand Challenges in Mathematics Education*	**Session 122** Strand 4, General ***Apple, Cleaves,*** *Developing Mathematics Learning Communities Focusing on Student Work*	**Session 123** Strand 4, General ***Whitesides,*** *"What's the Difference Between Algebra and Functions?" Exploring Differences Between Often Confused Mathematical Terms*	**Session 124** Strand 4, Elementary (K-5) ***Flores, Porter, Renie,*** *Supporting Teacher Collaboration in Implementing Open Response Problems and Planning Reengagement Discussions*	**Session 125** Strand 2, Middle (6-8) ***Johnson,*** *Empowering Students with a Suite of Tools in a Dynamic Digtial Workspace*	**Session 126** Strand 5, Intermediate (3-5) ***Ramirez, Susi,*** *Demystifying Multi-Digit Multiplication and Division for ELL Students Through Questioning and Interactive Open Arrays*
1:30-2:30	**Session 139** Strand 2, General ***Mills,*** *Leading Learning in the Expanding Digital Landscape: Big Ideas, Fads, and Openings*	**Session 140** Strand 4, Elementary (K-5) ***Thomson, Byrnes,*** *It's a Balancing Act*	**Session 141** Strand 5, General ***Wuttig, Daml,*** *Changing Math Mindsets for Struggling Learners and their Teachers*	**Session 142** Strand 4, Elementary (K-5) ***Whittington, Zimolzak,*** *Supporting Reflective Teaching and Meaningful Collaboration through Various Collaborative Coaching Structures*	**Session 143** Strand 4, General ***Coe,*** *EQulPing Teachers with Quality and Aligned Instructional Materials*	**Session 144** Strand 4, High School (9-12) ***Usiskin,*** *Professional Development on Geometric Transformations: Replacing Confusions with Coherence*
2:45-3:45	**Session 157** Strand 1, General ***Stiff,*** *This Little Light of Mine, I'm Gonna Let it Shine!*	**Session 158** Strand 1, General ***Parker,*** *Enacting the CCSS: Preparing a Next Generation of Mathematics Teacher Leaders*	**Session 159** Strand 5, Secondary (6-12) ***Badertscher, Cuoco,*** *When Questions of Equity are Actually Questions About Mathematics*	**Session 160** Strand 1, Elementary (K-5) ***Caban, Stinneford, Mohlar, Harriman, Boston, Shink,*** *Using a Collaborative Walkthrough Process to Build Capacity for Rigorous Math Instruction*	**Session 161** Strand 4, Secondary (6-12) ***Griffith,*** *Does One Lesson Matter? Using Action Research to Help Teachers Grown and Change*	**Session 162** Strand 3, General ***Foster,*** *The Decisions and Shifts Required by the Common Core State Standards*
4:00-5:00	**Session 176** Strand 4, General ***Curtis-Bey,*** *Building District Leadership Capacity in Mathematics*	**Session 177** Strand 1, Secondary (6-12) ***Matsuura, Sword, Gates, Kang, Cuoco, Stevens,*** *Measuring Secondary Teachers' Use of Standards for Mathematical Practice (SMP)*	**Session 178** Strand 3, General ***England,*** *Leading Teachers through Formative Assessment: Modeling Processes in Supervision and Professional Development*	**Session 179** Strand 1, Intermediate (3-5) ***Schifter,*** *Noticing, Articulating, and Proving Generalizations: A Context for Leveraging Mathematical Practices*	**Session 180** Strand 1, Elementary (K-5) ***Nuzzie,*** *A Systematic Approach for Implementing Mathematical Processes and Practices*	**Session 181** Strand 1, Primary (PK-2) ***Murphy,*** *Making Mileage with the Mathematical Practices in the Early Years*
5:05-5:30						**Session 193** Strand 5 ***Watertown Children's Theatre,*** *The Main Street Kids' Club: A MathStart Musical*

5:30-7:00: Session 195: Reception (ticket required), Sponsored by Redbird Advanced Learning, Level 3 Ballroom Lobby

MONDAY SUMMARY

7:30-8:30: Session 080: Continental Breakfast (no ticket required), Sponsored by *MIND Research,* Exhibit Hall B1 NW
7:30-8:00: Session 081: Conference Orientation, 156 A
8:00-8:30: Session 082: Opening Session: Welcome, Valerie Mills, Connie Schrock, Boston Mayor, Martin J. Walsh, Exhibit Hall B1 NW
8:30-9:15: Session 083: Keynote Speaker, Jo Boaler, Exhibit Hall B1 NW

	156 A	156 B	156 C	157 A	157 C	151 AB
9:30-10:30	**Session 090** Strand 3, General ***Mullen,*** *Justification & Explanation (MP3)*	**Session 091** Strand 3, Intermediate (3-5) ***Schielack, Chancellor,*** *Using a Task/Question-Generating Tool for Formative Assessment of Understanding of Fractions*	**Session 092** Strand 4, General ***Karsten, Akwaji-Anderson, Brady, Gauthier,*** *NCSM: Coaching Kickoff*	**Session 093** Strand 1, Elementary (K-5) ***Moore,*** *Leveraging STEM to Support the Mathematical Practices: Integrated Experiences to Support Student Learning*	**Session 094** Strand 5, General ***Seward, Fulton, Narasimhan,*** *Achieving Equity: How a Large Urban District is Using Instructional Strategies to Reach All Students*	**Session 095** Strand 4, Middle (6-8) ***Kaplinsky,*** *Helping Teachers Refine their Questioning Skills to Formatively Assess Student Understanding*
10:45-11:45	**Session 108** Strand 2, College ***Stone, Trimble,*** *Using Digital Learning and Formative Assessment to Foster Undergraduate Students' Mathematical Learning and Achievement*	**Session 109** Strand 4, High School (9-12) ***Mooney, Fossum, Schoonover,*** *Incorporating the Classroom in Professional Learning Opportunities*	**Session 110** Strand 3, General ***Joyner,*** *JUMP START Formative Assessment - A Resource for National Council of Supervisors Members*	**Session 111** Strand 2, General ***Burns,*** *Creating a "Professional Learning Pangaea" Using 21st Century Tools & Technology*	**Session 112** Strand 4, General ***Reynolds, Everling,*** *Time for a Reflective Conversation with a Teacher? Does the Question Matter?*	**Session 113** Strand 4, General ***Cameron, Phillips, Fitzgerald, Taylor,*** *Moving Beyond Evaluation: The Role of Responsive Feedback in Shifting Teacher Practice*

12:00-1:15: Session 120: Lunch (ticket required), Sponsored by Math Teachers Press, Exhibit Hall B1 NW

12:15-1:15	**Session 127** Strand 1, Middle (6-8) ***Carroll, Gale,*** *The Role of Cognitive Design Principles in Implementing Mathematical Practices to Support Sudent Learning*	**Session 128** Strand 5, Intermediate (3-5) ***Leong, Long, Suh, Seshaiyer,*** *Making Sense of Mathematical Modeling in Grades 3-5: A Preliminary Framework*	**Session 129** Strand 1, General ***Chuang, Crouse, Wolling,*** *Spotlight on a Common Vision for Mathematics Instruction: A Multidivisional Collaboration on Professional Developement*	**Session 130** Strand 3, Middle (6-8) ***Duvall,*** *Engaging Kids in the Assessment Process*	**Session 131** Strand 1, High School (9-12) ***England,*** *Using Technology to Foster the Standards for Mathematical Practice: More than Using Tools Strategically*	**Session 132** Strand 2, General ***Khalsa, Pittock, Wilson, Krueger, Nisbet, Heber,*** *A Digital Panel Through Classroom Formative Assessment Instructional Strategies Using Technology*
1:30-2:30	**Session 145** Strand 1, Elementary (K-5) ***Rutherford, Curtis,*** *How Does the Implementation of the Mathematical Practices Make a Difference in Instruction?*	**Session 146** Strand 1, Middle (6-8) ***Reynolds,*** *Responding to Students' Written Responses: Fractions to Algebra*	**Session 147** Strand 1, Elementary (K-5) ***Norris, Pugalee, Schrock, Seitz,*** *Great Tasks Create Opportunities for Great Practices: K-5 Students Engaged in Problem Solving*	**Session 148** Strand 4, Intermediate (3-5) ***Davenport, Daniel, Hill,*** *Supporting Mathematics Teaching and Learning in Grades 4 and 5: What Contributes to Strong Instruction?*	**Session 149** Strand 1, Middle (6-8) ***Stadel,*** *Practical Ideas for Using Number Sense Activities to Get Students to Productively Argue*	**Session 150** Strand 5, Elementary (K-5) ***Shaughnessy, Ball, Mann, Garcia,*** *(How) Can Explicitness About Mathematical Practice Support Equitable Instruction?*
2:45-3:45	**Session 163** Strand 2, Middle (6-8) ***Dick, Burrill,*** *The CCSS, Ratios and Proportional Reasoning: Implications for Teacher Leaders*	**Session 164** Strand 3, Elementary (K-5) ***Lancour, Anderson,*** *Connecting Formative Assessment & Teachers' Talk in PLC's to Understand Students' Thinking & Inform Instruction*	**Session 165** Strand 1, High School (9-12) ***Milou,*** *Reinventing Algebra in a Common Core World*	**Session 166** Strand 3, General ***Petit, Abele-Austin,*** *Lesson Study: A Vehicle to Support the Intentional and Systematic Use of Formative Assessment in Classrooms*	**Session 167** Strand 4, Secondary (6-12) ***Males, Males,*** *A University-School Partnership to Support Novice Teachers' Purposeful Planning for Instruction*	**Session 168** Strand 5, Middle (6-8) ***Davis, Choppin,*** *Middle School Mathematics Teachers' Perceptions of the Common Core: Standards, Assessments, and Teacher Evaluation*
4:00-5:00	**Session 182** Strand 1, General ***Jacobs, Kennedy, Sherman,*** *Rich Tasks that Highlight Structure (MP7) & Regularity (MP8)*	**Session 183** Strand 1, Middle (6-8) ***Hoover,*** *Designing Contextualized Learning Environments to Support Common Core Amongst Heterogeneous Student Groupings*	**Session 184** Strand 4, Elementary (K-5) ***Burnett,*** *A Vision of Success: Empowering Coaches with Effective Strategies and Visual Tools for Developing Fact Fluency*	**Session 185** Strand 2, Elementary (K-5) ***Assal, Butterfield,*** *Using a Visual Approach to Triple Student Achievement for All Students (ELL, Special Ed., New Immigrants, & General Ed.)*	**Session 186** Strand 3, Secondary (6-12) ***Seashore,*** *Developing Teacher Practices and Student Reasoning with Formative Assessment Lessons*	**Session 187** Strand 1, General ***Mills, Toncheff,*** *Regional Directors and State Team Leaders*
5:15-5:45	**Session 194** General ***Rendon,*** *What's it All About? An Orientation for Those New to the NCSM Annual Conference*					

5:30-7:00: Session 195: Reception (ticket required), Sponsored by Redbird Advanced Learning, Level 3 Ballroom Lobby

MONDAY SUMMARY

7:30-8:30: Session 080: Continental Breakfast (no ticket required), Sponsored by *MIND Research,* Exhibit Hall B1 NW
7:30-8:00: Session 081: Conference Orientation, 156 A
8:00-8:30: Session 082: Opening Session: Welcome, Valerie Mills, Connie Schrock, Boston Mayor, Martin J. Walsh, Exhibit Hall B1 NW
8:30-9:15: Session 083: Keynote Speaker, Jo Boaler, Exhibit Hall B1 NW

	152	153 A	153 B	153 C	157 B	154
9:30-10:30	**Session 096** Strand 1, Secondary (6-12) ***Gittermann, Cheung,*** *Giving Students a Voice: Why and How to Engage Students in the Math Practices*	**Session 097** Strand 2, Middle (6-8) ***Brasiel, Redington,*** *Utah STEM Action Center's Approach to Improving Mathematics for Secondary Students Using Digital Technology*	**Session 098** Strand 1, Middle (6-8) ***Laughlin, Huinker, Schefelkler,*** *Using Mindsets Theory to Help Teachers Develop a Growth Mindset in Themselves and in their Students*	**Session 099** Strand 3, Elementary (K-5) ***Nolan, Dixon, Adams,*** *Moving Beyond the Core: Supporting Implementation of the Teaching-Assessing-Learning Cycle*	**Session 100** Strand 1, Intermediate (3-5) ***McNamara,*** *Beyond Invert and Multiply: Making Sense of Fraction Computation*	**Session 101** Strand 2, General ***Speaker,*** *Leveraging the Power of Mobile Across K-12 Math Classrooms*
10:45-11:45	**Session 114** Strand 2, General ***Childs,*** *Engaging Students in Mathematics Using Social Media*	**Session 115** Strand 5, Middle (6-8) ***Zangari,*** *A Mathematical Walking Tour of Boston*	**Session 116** Strand 5, General ***Barnes, Novak, Vaden, Wray,*** *It's Time! Our Student's Voice as a Catalyst for Change*	**Session 117** Strand 4, High School (9-12) ***Wilson, Kolb, Wallis, Joyner, Midgett, Webb,*** *Rehearsing Student-Centered Instructional Practices in Secondary Mathematics Professional Developement*	**Session 118** Strand 3, General ***England,*** *From Standards to Practice: Leading Teachers to Improve Student Understanding Through Formative Assessment*	**Session 119** Strand 1, Elementary (K-5) ***Bevins, Meadows,*** *Performance Tasks and Assessments that Support Common Core, K-5*

12:00-1:15: Session 120: Lunch (ticket required), Sponsored by Math Teachers Press, Exhibit Hall B1 NW

12:15-1:15	**Session 133** Strand 5, General ***Lucenta, Kelemanik, Creighton,*** *Engaging ALL Learners in Mathematical Practices Through Instructional Routines*	**Session 134** Strand 4, General ***Freeman, Clark,*** *Designing Effective Professional Learning that Makes a Difference in Student Learning*	**Session 135** Strand 3, High School (9-12) ***Iwasaki,*** *College AND CAREER Ready Math: Industry-Based Formative Assessment Lessons*	**Session 136** Strand 4, General ***Vohrer,*** *Increasing Teacher Efficacy in the Elementary Mathematics Classroom*	**Session 137** Strand 2, Secondary (6-12) ***Trow,*** *Build a Growth Mindset to Accelerate Struggling Students (Grade 5 & Up)*	**Session 138** Strand 2, General ***Speaker,*** *Digital Learning for the Common Core: Introducing Pearson Common Core System of Courses*
1:30-2:30	**Session 151** Strand 4, Elementary (K-5) ***Brodesky, Fagan,*** *One-Size PD Does Not Fit All: Strategies to Differentiate Professonal Learning for Teachers on Fractions (CCSS)*	**Session 152** Strand 5, Intermediate (3-5) ***Hedges, Schefelkler,*** *Getting at the Heart of Mathematical Thinking*	**Session 153** Strand 5, General ***Zimba, Cocuzza,*** *Examining Instructional Materials and Improving Alignment to the Common Core*	**Session 154** Strand 4, General ***Johnson, Toguchi,*** *Supporting Teacher Teams with Talk Protocols*	**Session 155** Strand 1, General ***Fetter, Ray,*** *Math Forum's Problems of the Week: Practice for Online Assessments*	**Session 156** Strand 2, Intermediate (3-5) ***Bousquet,*** *Leverage the Power of Adaptive Technology to Meet Rigorous Goals*
2:45-3:45	**Session 169** Strand 4, Elementary (K-5) ***Gibbons, Hintz, Hartmann,*** *Teacher Time Out: A Way to Supporting the Collective Learning of Educators*	**Session 170** Strand 1, General ***Kelemanik, Lucenta,*** *Instructional Routines: The Key for Teachers to Foster the Mathematical Practices in All Students*	**Session 171** Strand 4, General ***Beske, Cocuzza,*** *Effective Strategies for Planning and Teaching CCSS Aligned Lessons*	**Session 172** Strand 5, Intermediate (3-5) ***Siegel, Koester,*** *A Rigorous Approach to Teaching Fractions That All Students Can Master: Fantasy or Reality?*	**Session 173** Strand 2, General ***Vennebush,*** *Experience Math with Awesome Games and Online Tools*	**Session 174** Strand 2, Secondary (6-12) ***Ozeri,*** *Ensure Progress to Algebra with MATH 180 Course II (Grade 6 & Up)*
	EXHIBIT HALL B1 NE **3:00 - 3:45**	**Session 175** General ***HOT TOPICS*** ***Tang, Herbel-Eisenmann, Kazemi, Brown***				
4:00-5:00	**Session 188** Strand 3, Middle (6-8) ***Strutchens, Burton,*** *Using Professional Learning Communities to Improve Teachers' Use of Formative Assessment: Increasing Student Learning*	**Session 189** Strand 2, Secondary (6-12) ***Spalding, Frisbie,*** *From Solid to Solid: Designing Professional Development on Using Concrete Manipulatives to Cement Student Understanding*	**Session 190** Strand 3, Middle (6-8) ***Buffington, Tobey, Cerrone,*** *Eliciting Mathematics Misconceptions: Validated Resources to Support Formative Assessment in Fraction and Decimal Topics*	**Session 191** Strand 2, Secondary (6-12) ***Reardon,*** *Create Deep Understanding by Integrating Technology and Rich Tasks that Provide Active Engagement and Encourage Inquiry*	**Session 191.5** Strand 1, Primary (PK-2) ***Carney, Forsberg,*** *Bring Your Handwritten Math to Life with FluidMath*	**Session 192** Strand 2, General ***Fields, Lippert, Pittock, Green,*** *Redbird Mathematics: The Next Generation of Stanford University's Digital K-7 Math Curriculum*

5:30-7:00: Session 195: Reception (ticket required), Sponsored by Redbird Advanced Learning, Level 3 Ballroom Lobby

MONDAY SESSIONS BY STRAND

STRAND 1: LEADING INSTRUCTION TO LEVERAGE THE MATHEMATICS PRACTICES FOR INCREASED ACHIEVEMENT

SESSION	LOCATION	TIME
087	106	9:30-10:30
093	157 A	9:30-10:30
096	152	9:30-10:30
098	153 B	9:30-10:30
100	157 B	9:30-10:30
119	154	10:45-11:45
127	156 A	12:15-1:15
129	156 C	12:15-1:15
131	157 C	12:15-1:15
145	156 A	1:30-2:30
146	156 B	1:30-2:30
147	156 C	1:30-2:30
149	157 C	1:30-2:30
155	157 B	1:30-2:30
157	104 ABC	2:45-3:45
158	103	2:45-3:45
160	106	2:45-3:45
165	156 C	2:45-3:45
170	153 A	2:45-3:45
177	103	4:00-5:00
179	106	4:00-5:00
180	107 A	4:00-5:00
181	107 BC	4:00-5:00
182	156 A	4:00-5:00
183	156 B	4:00-5:00
187	151 AB	4:00-5:00
191.5	157 B	4:00-5:00

STRAND 2: EXAMINING THE OPPORTUNITIES AND CHALLENGES OF USING TECHNOLOGY TO SUPPORT TEACHING AND LEARNING MATHEMATICS

SESSION	LOCATION	TIME
097	153 A	9:30-10:30
101	154	9:30-10:30
104	105	10:45-11:45
108	156 A	10:45-11:45
111	157 A	10:45-11:45
114	152	10:45-11:45
125	107 A	12:15-1:15
132	151 AB	12:15-1:15
137	157 B	12:15-1:15
138	154	12:15-1:15
139	104 ABC	1:30-2:30
156	154	1:30-2:30
163	156 A	1:30-2:30
173	157 B	1:30-2:30
174	154	1:30-2:30
185	157 A	4:00-5:00
189	153 A	4:00-5:00
191	153 C	4:00-5:00
192	154	4:00-5:00

STRAND 3: ADVANCING FORMATIVE ASSESSMENT AS AN INTEGRAL TOOL FOR UNDERSTANDING STUDENT THINKING AND GUIDING INSTRUCTIONMATHEMATICS

SESSION	LOCATION	TIME
084	104 ABC	9:30-10:30
090	156 A	9:30-10:30
091	156 B	9:30-10:30
099	153 C	9:30-10:30
105	106	10:45-11:45
110	156 C	10:45-11:45
118	157 B	10:45-11:45
130	157 A	12:15-1:15
135	153 B	12:15-1:15
162	107 BC	2:45-3:45
164	156 B	2:45-3:45
166	157 A	2:45-3:45
178	105	4:00-5:00
186	157 C	4:00-5:00
188	152	4:00-5:00
190	153 B	4:00-5:00

STRAND 4: EXPLORING STRATEGIES AND TOOLS FOR MATHEMATICS LEADERS AND COACHES TO SUPPORT MATHEMATICS LEARNING

SESSION	LOCATION	TIME
085	103	9:30-10:30
086	105	9:30-10:30
088	107 A	9:30-10:30
092	156 C	9:30-10:30
095	151 AB	9:30-10:30
102	104 ABC	10:45-11:45
103	103	10:45-11:45
107	107 BC	10:45-11:45
109	156 B	10:45-11:45
112	157 C	10:45-11:45
113	151 AB	10:45-11:45
117	153 C	10:45-11:45
121	104 ABC	12:15-1:15
122	103	12:15-1:15
123	105	12:15-1:15
124	106	12:15-1:15
134	153 A	12:15-1:15
136	153 C	12:15-1:15
140	103	1:30-2:30
142	106	1:30-2:30
143	107 A	1:30-2:30
144	107 BC	1:30-2:30
148	157 A	1:30-2:30
151	152	1:30-2:30
154	153 C	1:30-2:30
161	107 A	2:45-3:45
167	157 C	2:45-3:45
169	152	2:45-3:45
171	153 B	2:45-3:45
176	104 ABC	4:00-5:00
184	156 C	4:00-5:00

STRAND 5: SHIFTING PRACTICES TO EFFECTIVELY IMPLEMENT THE COMMON CORE STATE STANDARDS: EQUITY FOR ALL LEARNERS WITH FOCUS, RIGOR, AND DEPTH

SESSION	LOCATION	TIME
089	107 BC	9:30-10:30
094	157 C	9:30-10:30
106	107 A	10:45-11:45
115	153 A	10:45-11:45
116	153 B	10:45-11:45
126	107 BC	12:15-1:15
128	156 B	12:15-1:15
133	152	12:15-1:15
141	105	1:30-2:30
150	151 AB	1:30-2:30
152	153 A	1:30-2:30
153	153 B	1:30-2:30
159	105	2:45-3:45
168	151 AB	2:45-3:45
172	153 C	2:45-3:45
193	107 BC	5:04-5:30

MONDAY BREAKFAST

SESSION 080 **7:30 AM - 8:30 AM** **EXHIBIT HALL B1 NW**

NO TICKET REQUIRED

Sponsored by MIND Research Institute. MIND Research Institute is a neuroscience and education social benefit organization dedicated to the mission of ensuring that all students are mathematically equipped to solve the world's most challenging problems. Created by MIND Research Institute, ST Math is game-based instructional software for K-12 designed to boost math comprehension and proficiency through visual learning.

MIND Research Institute

Erich Zeller, MIND's Manager of Instructional Consulting, MIND Research Institute, Irvine, CA

VISIT US AT BOOTH # 415

CONFERENCE ORIENTATION

SESSION 081 **7:30 AM - 8:00 AM** **156 A GENERAL**

What's It All About? An Orientation for Those New to the NCSM Annual Conference

This session is for those who are new to NCSM Conferencing. Participants will network with others, review the structure of the conference, explore the different conference options, set personal priorities and goals, and work on a personal plan of what to do and where to go during the conference.

Mona Toncheff, NCSM W1 Regional Director, Phoenix, AZ

OPENING NCSM SESSION (8:00 AM - 8:30 AM)

SESSION 082 **EXHIBIT HALL B1 NW**
STRAND 2

Connie Schrock
NCSM, 1st Vice President
Emporia, KS

Valerie l. Mills
NCSM President
Ypsilanti, MI

KEYNOTE SPEAKER

Jo Boaler, Stanford University, Stanford University, CA: The Mathematics Learning Revolution – and What It Means For Our Work As Teacher Leaders

Mayor of Boston, Mayor Martin J. Walsh

Mayor Martin J. Walsh, an accomplished advocate for working people and a proud product of the City of Boston, was sworn in as the City's 54th Mayor on January 6, 2014. With a commitment to community, equality and opportunity for every resident and neighborhood, Mayor Walsh has the record, skills and passion to move Boston forward. In all his endeavors, Mayor Walsh has become known as someone whose word is his bond.

A co-founder and former board member of the Neighborhood House Public Charter School, Mayor Walsh has long been an aggressive advocate for strong public schools. In the Legislature, he fought for annual funding for alternative schools and helped pass a law that allows the city to transform underperforming schools into pilot, magnet and in-district charter schools.

MONDAY 8:30 AM - 9:15 AM

KEYNOTE SPEAKER

SESSION 083 EXHIBIT HALL B1 NW
STRAND 1 GENERAL

The Mathematics Learning Revolution – and What It Means For Our Work As Teacher Leaders

Jo Boaler, Stanford University, Stanford University, CA

Presider: **Connie Schrock**, NCSM First Vice President

The script could not have been written more perfectly. As the science of the brain shows new evidence of the power of mindset, mistakes, and challenge; leaders of industry speak out about the urgent need to stop teaching calculating and instead teach modeling and reasoning. At the same time the new Common Core Standards pave the way for such changes to be made in schools – through engaging materials and new messages to students. But how do teacher leaders help teachers learn the important new knowledge they need to make these changes? In this presentation I will review some important new evidence on the brain and learning and consider the work we need to do to combat inequalities and create a nation of high achieving math students.

Dr. Jo Boaler is a Professor of Mathematics Education at Stanford University, and the co-founder of youcubed. She is also the editor of the Research Commentary Section of The Journal for Research in Mathematics Education (JRME), an analyst for PISA testing in the OECD, and author of the first MOOC on mathematics teaching and learning. Former roles have included being the Marie Curie Professor of Mathematics Education in England, a mathematics teacher in London comprehensive schools and a lecturer and researcher at King's College, London. Her PhD won the national award for educational research in the UK and her book: Experiencing School Mathematics won the 'Outstanding Book of the Year' award for education in Britain. She is an elected fellow of the Royal Society of Arts (Great Britain), and a former president of the International Organization for Women and Mathematics Education (IOWME). She is the recipient of a National Science Foundation 'Early Career Award' and the NCSM Kay Gilliland Equity Award (2014). She is the author of seven books and numerous research articles. Her latest books What's Math Got To Do With It? (2009) published by Penguin, USA and The Elephant in the Classroom (2010) published by Souvenir Press, UK, both aim to increase public understanding of the importance of good mathematics teaching. She serves as an advisor to several Silicon Valley companies, and a White House presenter on girls and STEM. She recently formed www.youcubed.org to give teachers and parents the resources and ideas they need to inspire and excite students about mathematics.

9:30 AM - 10:30 AM

MAJOR PRESENTATION

SESSION 084 104 ABC
STRAND 3 GENERAL

Wedding Formative Assessment to Mathematics Instructional Frameworks: Something Old, Something New

Edward Silver, University of Michigan, Ann Arbor, MI

Presider: **Wanda Audriet**, NCSM Regional Director

Formative Assessment (FA) is an essential feature of effective mathematics instruction, but it is unlikely to take hold in mathematics instruction in U.S. schools if it is viewed as "one more thing for teachers to do." Fortunately, FA is intertwined with several other approaches to improving mathematics instruction, such as classroom discourse tools or CGI. It should be possible to exploit these relationships and use ongoing mathematics instructional improvement initiatives to drive progress on FA. In this session, I explore this idea using findings from a national survey of NCSM and AMTE members and a working meeting that explored FA and links to other mathematics instructional frameworks.

Edward A. Silver is the William A. Brownell Collegiate Professor of Education and Professor of Mathematics at the University of Michigan in Ann Arbor. In the past he has served as Chair of the Ed

His scholarly interests include the study of mathematical thinking, especially mathematical problem solving and problem posing; the design and analysis of intellectually engaging and equitable mathematics instruction for students; innovative methods of assessing and reporting mathematics achievement; and effective models for enhancing the knowledge of teachers of mathematics. He has published numerous articles, chapters, and books on these topics. He served as editor of the Journal for Research in Mathematics Education from 2000-2004, and as co-editor of The Elementary School Journal from 2008-2010.

He has served on several National Research Council Committees, as well as numerous advisory boards for projects and organizations. He currently serves as an elected member of the Board of Directors of the Association of Mathematics Teacher Educators. He was the 2004 recipient of the Award for Outstanding Contributions of Educational Research to Practice from the American Educational Research Association (AERA); the 2007 recipient of the Iris Carl Memorial Leadership and Equity Award from TODOS; the 2008 Judith Jacobs Lecturer of the Association of Mathematics Teacher Educators (AMTE); the 2009 recipient of the Lifetime Achievement Award from the National Council of Teachers of Mathematics (NCTM).

9:30 AM - 10:30 AM CONT...

SESSION 085 **103**
STRAND 4 **ELEMENTARY (K - 5)**

Fraction Multiplication and Division Using Hands-On Measurement Models

In this session we will collaboratively explore hands-on activities for professional development and classroom teaching that use spatial measurement to support conceptual understanding of multiplication and division of fractions. We will also discuss common misconceptions and research related to the understanding of these concepts.

Nicholas Gilbertson, Michigan State University, East Lansing, MI

John Smith, Michigan State University, East Lansing, MI

Eryn Stehr, Michigan State University, East Lansing, MI

V. Satyam, Michigan State University, East Lansing, MI

SESSION 086 **105**
STRAND 4 **GENERAL**

Let's Visit Classrooms: Empowering Teacher Collaboration

Learn what one district has done to empower teachers to improve teaching and learning practices with an open door philosophy. Teacher leaders will share how collaborating with colleagues in classrooms across the district (K-12) has increased their understanding of our students and has led to increased student achievement.

Jayne Bamford Lynch, Cambridge Public Schools, Cambridge, MA

Eileen Gagnon, Cambridge Public Schools, Cambridge, MA

SESSION 087 **106**
STRAND 1 **ELEMENTARY (K - 5)**

Learning to Love the Common Core

Teachers' beliefs and attitudes impact instruction, yet many elementary teachers feel inadequate in teaching mathematics outside of their resource. Explore ways leaders can help teachers engage with meaningful mathematics experiences wrapped in the practices to gain a love for mathematical content, instruction, the mathematical practices, and to pass this love on to their students.

Nanci Smith, E2C2, Cave Creek, AZ

Denise Brady, Shiawassee RESD, Corunna, MI

SESSION 088 **107 A**
STRAND 4 **SECONDARY (6-12)**

Study Team and Teaching Strategies: Getting Teams to Work Effectively in Class

Participants will experience study team and teaching strategies that particularly deal with discourse, work on mathematics problems using these strategies, see how the SMPs will be tied into and highlighted by these strategies, be actively engaged in using strategies that they can take back and use in their classrooms, with parents and in PD.

Chris Mikles, CPM, Elk Grove, CA

SPOTLIGHT SPEAKER

SESSION 089 **107 BC**
STRAND 5 **INTERMEDIATE (3 - 5)**

How "Lingering" on Ideas about the Meaning of the Operations Can Include All Students in Significant Learning

Susan Jo Russell, TERC, Cambridge, MA

Presider: **Gwen Zimmerman**, NCSM Regional Director

Is it possible to replace the image of learning as "covering" territory with an image of learning as stopping to carefully study the important features of the landscape? How can we provide teachers with guidelines for "lingering" on core content about the meaning of the operations in ways that benefit both "struggling" and "excelling" students?

SESSION 090 **156 A**
STRAND 3 **GENERAL**

Justification & Explanation (MP3)

For students to become better creators of viable arguments, teachers should help them shape their arguments. ACT's progression of justification skills can be a tool in the classroom to assess where students are and where they need to go. The progression comes from ACT Aspire, built to assess CCSSM.

Ken Mullen, ACT, Iowa City, IA

SESSION 091 **156 B**
STRAND 3 **INTERMEDIATE (3 - 5)**

Using a Task/Question-Generating Tool for Formative Assessment of Understanding of Fractions

We have combined strategies for formative assessment with possible learning gaps that can be uncovered to design a tool that teachers can use to support their planning for ongoing assessment. In this session, participants will explore the use of this tool in the context of a specific lesson on fraction concepts.

Janie Schielack, Texas A&M University, College Station, TX

Dinah Chancellor, D R Chancellor, Inc., Southlake, TX

9:30 - 10:30 AM CONT...

SESSION 092 **156 C**
STRAND 4 **GENERAL**

NCSM: Coaching Kickoff

Calling all coaches! Come to the 2nd Annual Coaching "Kick-off" session where you will enjoy networking opportunities with other coaches. You will see the new resources available on NCSM: Coaching Corner website. You will also have an opportunity to request new resources that will support your work. See you there.

Donna Karsten, Nova Scotia Education and Early Childhood Development, Halifax, Nova Scotia

Comfort Akwaji-Anderson, NCSM C2 Regional Director, Iowa City, IA

Denise Brady, Shiawassee RESD, Corunna, MI

Jason Gauthier, Allegan Area Educational Service Agency, Allegan, MI

SESSION 093 **157 A**
STRAND 1 **ELEMENTARY (K - 5)**

Leveraging STEM to Support the Mathematical Practices: Integrated Experiences to Support Student Learning

Rigor in mathematics includes application in a variety of settings. Integrated STEM experiences provide opportunities for application in meaningful settings. They also provide a context for natural inclusion of the mathematical practices. Explore strategies for using integrated STEM experiences to support implementing the mathematical practices.

Sara Moore, ETA hand2mind, Vernon Hills, IL

SESSION 094 **157 C**
STRAND 5 **GENERAL**

Achieving Equity: How a Large Urban District is Using Instructional Strategies to Reach All Students

The CCSS provide our nation with the opportunity to achieve greater educational equity. This session will highlight how the Chicago Public Schools are reaching all students through the district-wide use of specific instructional strategies. Participants will explore these mathematics strategies through active engagement, video observation, and discussion.

Ruth Seward, DePaul University, Chicago, IL

Jessica Fulton, Chicago Public Schools, Chicago, IL

Lynn Narasimhan, DePaul University, Chicago, IL

SESSION 095 **151 AB**
STRAND 4 **MIDDLE (6 - 8)**

Helping Teachers Refine their Questioning Skills to Formatively Assess Student Understanding

Asking students questions that encourage elaborate responses allows teachers to formatively assess their students in real time. Crafting effective questions is a challenging skill, but one that can be strengthened with practice and support. Leaders will engage in an activity that helps refine questioning skills and can be easily replicated.

Robert Kaplinsky, Downey Unified School District, Downey, CA

SESSION 096 **152**
STRAND 1 **SECONDARY (6-12)**

Giving Students a Voice: Why and How to Engage Students in the Math Practices

This session provides a systematic approach to centering instruction around the Standards for Mathematical Practices that will increase access for all. Participants will explore activities for educating students on the Practices, ideas for ensuring daily student engagement in the Practices, and tools for tracking student progress with the Practices.

Megan Gittermann, Howard County Public School System, Ellicott City, MD

Holly Cheung, Howard County Public School System, Ellicott City, MD

9:30 AM - 10:30 AM CONT...

SESSION 097 **153 A**
STRAND 2 **MIDDLE (6 - 8)**

Utah STEM Action Center's Approach to Improving Mathematics for Secondary Students Using Digital Technology

Utah's 2013 Legislature appropriated $8.5 million for secondary schools to implement mathematics software. This session reports achievement results and teacher feedback from the pilot led by the STEM Action Center. Participants engage in activities to explore personalized learning affordances of the piloted mathematics digital technologies.

Sarah Brasiel, Utah State University, Logan, UT

Sue Redington, STEM Action Center, Governor's Office of Economic Development, Salt Lake City, UT

SESSION 098 **153 B**
STRAND 1 **MIDDLE (6 - 8)**

Using Mindsets Theory To Help Teachers Develop a Growth Mindset in Themselves and in Their Students

Helping teachers and students have a growth mind set can make dramatic differences in classroom environments. This session will help participants understand how to nurture a growth mindset in themselves and in their students and create classrooms that support productive struggle.

Connie Laughlin, UW-Milwaukee, Milwaukee, WI

DeAnn Huinker, UW- Milwaukee, Milwaukee, WI

Beth Schefelkler, Milwaukee Public Schools, Milwaukee Public Schools, WI

SESSION 099 **153 C**
STRAND 3 **ELEMENTARY (K - 5)**

Moving Beyond the Core: Supporting Implementation of the Teaching-Assessing-Learning Cycle

How do we support teachers to create environments where students engage in mathematics with depth? Explore ways to structure professional development to plan and implement high cognitive demand tasks and ask assessing and advancing questions that take students Beyond the Core. The formative assessment process will be the foundation of the session.

Edward Nolan, Montgomery County Maryland Public Schools, Rockville, MD

Juli Dixon, University of Central Florida, Orlando, FL

Thomasenia Adams, University of Florida, Gainesville, FL

SPONSOR SHOWCASE

SESSION 100 **157 B**
STRAND 1 **INTERMEDIATE (3 - 5)**

Beyond Invert and Multiply: Making Sense of Fraction Computation

How come 1/2 + 1/4 doesn't equal 2/ 6? Doesn't multiplication make things bigger? Why do you multiply to divide fractions? Strategies for helping teachers address these questions and more will be answered through activities and video clips from the new Math Solutions resource, Beyond Invert and Multiply: Making Sense of Fraction Computation.

Julie McNamara, Cal State East Bay, Hayward, CA

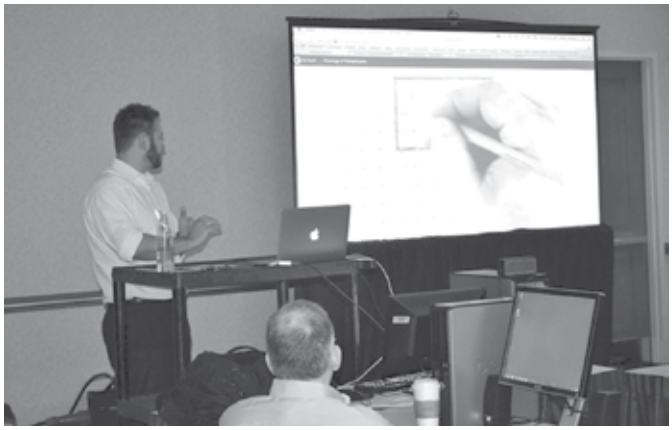
TECHNOLOGY SHOWCASE

SESSION 101 **154**
STRAND 2 **GENERAL**

Leveraging the Power of Mobile across K-12 Math Classrooms

How can you leverage the power of free mobile tools to enhance student learning? You'll leave this session with firsthand experience with age-appropriate, mobile-friendly tools your K-12 teachers can immediately begin using in their mathematics classrooms.

Pearson Speaker, Pearson, Upper Saddle River, NJ



10:45 AM - 11:45 AM

MAJOR PRESENTATION

SESSION 102 **104 ABC**
STRAND 4 **GENERAL**

Coaching the Rehearsal of an Instructional Activity: The Tension Between Focus and Complexity

Magdalene Lampert, Boston Teacher Residency, BPE, Boston, MA

Presider: **Suzanne Libfeld**, NCSM Regional Director

This session will look at teacher development through the lens of coaching during public rehearsal of a CCSS-aligned Instructional Activity. Such coaching can occur as groups of teachers work together on the common challenges of interacting with students, with one teacher approximating a lesson in front of the group and the coach simulating students' participation in the activity. Because interaction with students in CCSS-aligned teaching is complex, multiple challenges can arise as a rehearsal proceeds. Choosing to respond to whatever arises is often in tension with sticking to an agreed upon focus, like eliciting student thinking or connecting representations. We will consider video of group rehearsals of CCSS-aligned teaching interactions, and examine how coaches can manage the tension between focus and the complexity of practice.

Magdalene Lampert advises BPE on the design and development of the Boston Teacher Residency's clinical teacher education/induction program and documents growth and improvement in teaching and learning. She also consults with New Visions for Public Schools in New York City to design teacher development that supports achievement of the learning goals in the Common Core State Standards. From 2007 until 2011, she coordinated the "Learning Teaching in, from, and for Practice" Project, a project across the University of Washington, the University of Michigan, and UCLA. Dr. Lampert has taught elementary and high school mathematics, pre-service and in-service teacher education, and doctoral courses for aspiring teacher educators. She has written extensively about teaching practice, including the book Teaching Problems and the Problems of Teaching. Dr. Lampert is Professor Emerita in the University of Michigan School of Education. She received the 2014 Outstanding Contribution to Education Award from the Harvard Graduate School of Education and the 2014 AACTE Outstanding Journal of Teacher Education Article Award from the American Association of Colleges for Teacher Education Committee on Research and Dissemination.

SESSION 103 **103**
STRAND 4 **GENERAL**

Igniting Excellence: Creating Teacher Mentors to Fight the Mathematical Darkness

During this session, the spotlight will be on various stories from the field that share the impact that a well envisioned, two-year program to develop teacher mentors has had on student learning. Snapshots of successful implementation of best practices and leadership experiences that led to observable student and teacher gains will be presented.

Mary Swarthout, Sam Houston State University, Huntsville, TX

Susan Bohan, Region 6 Education Service Center, Huntsville, TX

SESSION 104 **105**
STRAND 2 **HIGH SCHOOL (9 - 12)**

Empowering Teachers Through Ongoing Personal Self-Sustaining Professional Development

This session addresses how to make professional development (PD)sustainable. Participants will examine electronically formatted curriculum materials that allow teachers to make adaptations, incorporate links, and preserve student work samples. These features are critical to effective teaching and learning and support ongoing, self-sustaining PD.

Hannah Slovin, University of Hawaii, Honolulu, HI

Fay Zenigami, University of Hawaii, Honolulu, HI

Judith Olson, University of Hawaii., Honolulu, HI

Melfried Olson, University of Hawaii, Honolulu, HI

Linda Venenciano, University of Hawaii, Honolulu, HI

SESSION 105 **106**
STRAND 3 **GENERAL**

Helping Students and Teachers Learn to Implement Formative Assessment Practices: Research Headlines, Resources and Tools

You can get more mileage from formative assessment by helping students learn to use the information gained. The FACETS project has completed five years of research and professional development helping teachers and students learn to effectively implement formative assessment. Learn about several research headlines, resources, and tools you can use.

Susan Janssen Creighton, Education Development Center, Waltham, MA

Emily Fagan, Education Development Center, Waltham, MA

Cheryl Tobey, Education Development Center, Randolph, ME

10:45 AM - 11:45 AM CONT...

SESSION 106 **107 A**
STRAND 5 **ELEMENTARY (K - 5)**

Yes! Implementing a Collaborative Planning Cycle Enables Students with Disabilities to Succeed in Grade-Level Math!

Examine a Collaborative Planning Cycle that transforms instructional practices in mathematics to increase access to rigor, promote student discourse, and provide an equitable environment for students with disabilities to meet grade-level learning targets. Yes! Students with disabilities do succeed in grade-level mathematics!

Emily Ware, Consultant, Boyds, MD

Peggy Hart, Consultant, Darnestown, MD

Paulina Masick, Montgomery County Maryland Public Schools, Rockville, MD

Edward Nolan, Montgomery County Maryland Public Schools, Rockville, MD

SPOTLIGHT SPEAKER

SESSION 107 **107 BC**
STRAND 4 **SECONDARY (6-12)**

Selecting and Adapting Tasks: Implementing the Mathematical Practices

Gail Burrill, Michigan State University, East Lansing, MI

Presider: **Anne Marie Nicoll Turner**, NCSM Nominations Chair

Not all tasks are equal. What makes a "problem worth doing"? What is the role of interactive dynamic technology? Criteria for determining whether a task is worthwhile can provide a guide to help teachers revise the tasks they encounter in their texts and resources to maximize learning experiences for their students.

SESSION 108 **156 A**
STRAND 2 **COLLEGE**

Using Digital Learning and Formative Assessment to Foster Undergraduate Students' Mathematical Learning and Achievement

This session examines how selected iPad applications (apps) are used in university mathematics and math methods courses to formatively assess students and inform instruction. Students' perspectives on feedback as well as lessons learned will be shared. Participants are encouraged to bring their own technology device.

Jamalee Stone, Black Hills State University, Spearfish, SD

Jill Trimble, Black Hills State University, Spearfish, SD

SESSION 109 **156 B**
STRAND 4 **HIGH SCHOOL (9 - 12)**

Incorporating the Classroom in Professional Learning Opportunities

Our presentation is a joint effort between district leadership and school leadership in a large urban district to provide a collaborative approach in supporting best teaching practices around discourse in mathematics classrooms. We will present how we used classrooms of our students as an integral part of district expectations of professional learning.

Mary Mooney, Milwaukee Public Schools, Milwaukee, WI

Astrid Fossum, Milwaukee Public Schools, Milwaukee, WI

Cynthia Schoonover, Milwaukee Public Schools, Milwaukee, WI

SESSION 110 **156 C**
STRAND 3 **GENERAL**

JUMP START Formative Assessment - A Resource for National Council of Supervisors Members

"Formative assessment" is defined in many different ways, but it primarily involves strategies to reveal information about student thinking that can be used to inform instruction. This session is an overview of JUMP START sessions for professional development that introduce formative assessment strategies to begin conversations among colleagues.

Jeane Joyner, Meredith College, Raleigh, NC

SESSION 111 **157 A**
STRAND 2 **GENERAL**

Creating a "Professional Learning Pangaea" Using 21st Century Tools & Technology

Inspired by Thomas Friedman's assertions in The World is Flat, we created a network for cross-continental collaboration of tools and strategies for mathematics teaching and learning. Join us as we share how using such technologies as webinars, tweets, Hangouts, and chats help improve, globalize, and publicize our learning and teaching best practices.

Jacqueline Burns, Abu Dhabi Education Council, Abu Dhabi, Abu Dhabi, UAE

SESSION 112 **157 C**
STRAND 4 **GENERAL**

Time for a Reflective Conversation with a Teacher? Does the Question Matter?

During collaborative conversations with teachers, the use of well-structured questions promotes thinking and reflection moving teachers beyond, "I taught them. I don't know why they did not learn it." Designing well-structured questions as a reflective practice focused on student achievement does matter!

Diane Reynolds, Math Solutions, Sausalito, CA

Renee Everling, Math Solutions, Sausalito, CA

10:45 AM - 11:45 AM CONT...

SESSION 113 **151 AB**
STRAND 4 **GENERAL**

Moving Beyond Evaluation: The Role of Responsive Feedback in Shifting Teacher Practice

How do principals, who may not be fluent in mathematics content, learn to provide specific, actionable feedback? This question was explored in our principal learning community. In this session, principals will share video of their lesson debriefs and highlight specific tools they developed to give more responsive feedback to their teachers.

Antonia Cameron, Metamorphosis Teaching Learning Communities, New York, NY

Elizabeth Phillips, NYC DOE, PS 321, Brooklyn, NY

Bernadette Fitzgerald, NYC DOE, PS 503, Brooklyn, NY

Donna Taylor, NYC DOE, BSI, New York, NY

SESSION 114 **152**
STRAND 2 **GENERAL**

Engaging Students In Mathematics Using Social Media

Social media is a powerful tool, which can be used to create engaging, relevant, and culturally diverse classrooms. The session will demonstrate how teachers can use social media to engage students in mathematical lessons. Participants will have the opportunity to discuss best practices for the effective use of social media in the classroom.

Kristopher Childs, University of Central Florida, Orlando, FL

SESSION 115 **153 A**
STRAND 5 **MIDDLE (6 - 8)**

A Mathematical Walking Tour of Boston

Participate and enjoy a mathematical walking tour of Boston. A goal of the walk is to convince everyone that mathematics can be found anywhere, including Boston. As you walk you will discover patterns, different shapes, and make connections to mathematics.

Gisele Zangari, Cushing Academy, Ashburnham, MA

SESSION 116 **153 B**
STRAND 5 **GENERAL**

It's Time! - Our Student's Voice as a Catalyst for Change

Our students say the darnedest things. In this engaging session, leaders will learn how one school district is engaging students to enhance curriculum development, teacher induction, professional learning, and mathematics instruction. Leaders will participate in a simulation designed to guide student-informed strategic planning.

Bill Barnes, NCSM E2 Regional Director, Ellicott City, MD

Jenny Novak, Howard County Public School System, Ellicott City, MD

Karen Vaden, Howard County Public School System, Ellicott City, MD

Jon Wray, Howard County Public Schools, Ellicott City, MD

SESSION 117 **153 C**
STRAND 4 **HIGH SCHOOL (9 - 12)**

Rehearsing Student-Centered Instructional Practices in Secondary Mathematics Professional Development

In this session, we report on our work in assisting secondary teachers in developing student-centered instructional practices in a professional development setting. We will present the design of our tasks and engage participants in a discussion on ways of supporting teachers in learning student-centered instructional practices.

P. Holt Wilson, The University of North Carolina at Greensboro, Greensboro, NC

Julie Kolb, Meredith College, Raleigh, NC

Charles Wallis, Brevard College, Brevard, NC

Jeane Joyner, Meredith College, Raleigh, NC

Carol Midgett, Meredith College, Raleigh, NC

Jared Webb, The University of North Carolina at Greensboro, Greensboro, NC

SPONSOR SHOWCASE

SESSION 118 **157 B**
STRAND 3 **GENERAL**

From Standards to Practice: Leading Teachers to Improve Student Understanding Through Formative Assessment

How do you lead teachers to think beyond today's lesson plan and connect to the learning goals for their students? We'll discuss how to monitor and respond to student feedback in order to move toward those goals. Learn valuable tips for integrating teaching practices, questioning strategies and technology into your own training with teachers.

Katie England, Montgomery County Schools, Rockville, MD

10:45 AM - 11:45 AM CONT...

TECHNOLOGY SHOWCASE

SESSION 119 **154**
STRAND 1 **ELEMENTARY (K - 5)**

Performance Tasks and Assessments That Support Common Core, K-5

Are you looking for engaging performance tasks that encourage the Mathematical Practices? Then, join Exemplars to learn about our latest mathematics supplement "Problem Solving for the Common Core." This resource features newly developed tasks and classroom tools to support the implementation of CCSSM. Rubrics, anchor papers and planning sheets are included.

Stacey Bevins, Exemplars, Underhill, VT

Jay Meadows, Browns River Middle School, Jericho, VT

12:15 PM - 1:15 PM

SESSION 121 **104 ABC**
STRAND 4 **GENERAL**

Grand Challenges in Mathematics Education

Mathematics education leaders seek answers to questions that will enhance teaching & learning. Other fields have identified Grand Challenges as a way to channel energy toward solving significant problems. What would a list of Grand Challenges for math education include? We invite you to provide ideas & engage in a discussion about this endeavor.

Kathryn Chval, University of Missouri, Columbia, MO

Michelle Stephan, University of North Carolina Charlotte, Charlotte, NC

Beth Herbel-Eisenmann, Michigan State University, East Lansing, MI

Mike Fish, National Council of Teachers of Mathematics, Reston, VA

SESSION 122 **103**
STRAND 4 **GENERAL**

Developing Mathematics Learning Communities Focusing on Student Work

Mathematics Learning Communities (MLC) use student work as a means to connect professional development to the classroom and to stimulate authentic discussions about how students learn mathematics. Participants will become members of a model MLC for a more in-depth look.

Dona Apple, Regional Science Resource Center @ UMass Medical School, Shrewsbury, MA

Wendy Cleaves, Regional Science Resource Center @ UMass Medical School, Shrewsbury, MA

SESSION 123 **105**
STRAND 4 **GENERAL**

"What's the Difference Between Algebra and Functions?" Exploring Differences Between Often Confused Mathematical Terms

This session will take a task centric and Common Core informed approach to looking at mathematics vocabulary that is often confused, and think about ways of clarifying the differences for students and educators. Expect to be engaged in both mathematical work as well as colleague level collaborative thinking at a variety of grade bands.

Ellen Whitesides, Illustrative Mathematics, Oro Valley, AZ

SESSION 124 **106**
STRAND 4 **ELEMENTARY (K - 5)**

Supporting Teacher Collaboration in Implementing Open Response Problems and Planning Reengagement Discussions

How can leaders and coaches best support teachers in implementing open response problems, analyzing student work samples, and using the data to plan and facilitate effective reengagement discussions? Participants will examine student work, leadership tools, and video to explore a collaborative Open Response and Reengagement process.

Kathryn Flores, University of Chicago, CEMSE, Chicago, IL

Denise Porter, University of Chicago, CEMSE, Chicago, IL

Alyssa Renie, University of Chicago, CEMSE, Chicago, IL

MONDAY LUNCH

12:00 PM - 1:15 PM

TICKET REQUIRED (WAIT LIST ADMITTED 12:30 PM)

SESSION 120 **EXHIBIT HALL B1 NW**
STRAND 2 **GENERAL**

Improving Student Achievement in Mathematics by Using Manipulatives with Classroom Instruction

Sonja Goerdt, St Cloud State University, St Cloud, MI

Are students learning to model mathematical concepts and regularly engaged in conceptually-based, hands-on instruction using manipulatives? Explore this exciting topic and learn how to apply the NCSM position paper recommendations integrating manipulatives into instruction effectively across all grade levels. Learn more about the Concrete-Representational-Abstract (CRA) method of instruction and it's successful implementation. " We remember 10% of what we hear, 30% of what we see and 90% of what we do." – Jean Piaget

Dr. Sonja L. Goerdt is an Associate Professor in the Mathematics Department at St Cloud State University. Her research interests focus on mathematics education. More specifically, she is interested in using multiple representations to support students in understanding mathematics. She also offers research effective discipline-specific professional development opportunities for P-12 teachers. Prior to her doctoral program, Dr. Goerdt taught secondary mathematics in Sauk Centre Public Schools for a decade. She completed her doctoral degree in Education, Curriculum and Instruction--Mathematics at the University of Minnesota, Twin Cities in 2007. Her research focused on using multiple representations to increase student understanding of calculus concepts. She earned her Master Degree in mathematics at St Cloud State University in 2003, and her undergraduate degree in mathematics at College of St Scholastica in 1993.

Sponsored in part by Math Teachers Press.

Math Teachers Press is celebrating its 35th anniversary publishing the manipulative based Moving with Math program for PK - High School. Our focus continues to be our commitment to help students succeed in mathematics using the CRA method of instruction with screening and progress monitoring. Our classroom roots have made us an Rtl leader providing a blended learning program that incorporates "Best Practices" and today's technology to meet the needs of students, teachers and administrators.

12:15 PM - 1:15 PM CONT...

SESSION 125 **107 A**
STRAND 2 **MIDDLE (6 - 8)**

Empowering Students with a Suite of Tools in a Dynamic Digital Workspace

Authentic problems don't come with step-by-step instructions, but too often we tell students outright how they should do a problem and which tools they should use. Learn how a suite of digital tools with a dynamic workspace can build student competence to create and share their own strategies for tackling rich mathematical tasks.

Erik Johnson, Amplify, Durham, NC

SPOTLIGHT SPEAKER

SESSION 126 **107 BC**
STRAND 5 **INTERMEDIATE (3 - 5)**

Demystifying Multi-Digit Multiplication and Division for ELL students through Questioning and Interactive Open Arrays

Nora Ramirez, Nora Ramirez consulting, Tempe, AZ

Lauri Susi, Conceptua Math, Petaluma, CA

Presider: **Donna Karsten**, NCSM's NCTM Representative

By shifting classroom instruction from an emphasis on "right and wrong" answers to applying the Mathematics Teaching Practices, teachers can engage ELL students in developing fluency of multi-digit multiplication and division. Interactive open arrays, connections among representations, high-quality discourse, and anchor charts will be highlighted.

SESSION 127 **156 A**
STRAND 1 **MIDDLE (6 - 8)**

The Role of Cognitive Design Principles in Implementing Mathematical Practices to Support Student Learning

How can teachers integrate research-based cognitive design principles to enhance high-quality mathematics curricula? We share PD strategies used to introduce teachers to the principles of using worked examples; visual and verbal mapping; and formative assessment and feedback, along with engaging students in the Standards for Mathematical Practice.

Catherine Carroll, WestEd, Redwood City, CA

Mardi Gale, WestEd, Redwood City, CA

12:15 PM - 1:15 PM CONT...

SESSION 128 **156 B**
STRAND 5 **INTERMEDIATE (3 - 5)**

Making Sense of Mathematical Modeling in Grades 3-5: A Preliminary Framework

Modeling is a standard for mathematical practice, but it is also a domain in the CCSS high school standards. In this session we will present a preliminary framework for teachers and task developers to interpreted mathematical modeling at the elementary level. A fourth grade problem-solving lesson is the focus of the exploration.

Kimberly Morrow Leong, George Mason University, Fairfax, VA

Mike Long, Howard County Community College, Columbia, MD

Jennifer Suh, George Mason University, Fairfax, VA

Padmanabhan Seshaiyer, George Mason University, Fairfax, VA

SESSION 129 **156 C**
STRAND 1 **GENERAL**

Spotlight on a Common Vision for Mathematics Instruction: A Multidivisional Collaboration on Professional Development

Find out how multiple school divisions collaborated to provide a common professional development for school leadership focused on the mathematical practices. Several divisions will share the impact of this professional development on their mathematics programs and how they are continuing the professional development to meet the needs of their division.

Suyi Chuang, Loudoun County Public Schools, Ashburn, VA

Michelle Crouse, Loudoun County Public Schools, Ashburn, VA

Kate Wolling, Fairfax County Public Schools, Fairfax, VA

SESSION 130 **157 A**
STRAND 3 **MIDDLE (6 - 8)**

Engaging Kids in the Assessment Process

Research shows formative assessment has the power to significantly improve student learning. This session will provide easy to use models/strategies of effective formative assessment that guide instruction and move learning forward. This session will focus on engaging students during the learning process to make them accountable for their learning.

Debbie Duvall, Duvall Consulting, Sherwood Park, Alberta, CA

SESSION 131 **157 C**
STRAND 1 **HIGH SCHOOL (9 - 12)**

Using Technology to Foster the Standards for Mathematical Practice: More than Using Tools Strategically

Developing students' abilities in Mathematical Practices requires purposeful planning. Technology provides a tool in which students can explore mathematics, develop reasoning abilities, and problem solve through rich tasks. This session examines rich-tasks and provides strategies that support teacher focus on explicit instruction in practices.

Katie England, Mongomery County Public Schools, Rockville, MD

SESSION 132 **151 AB**
STRAND 2 **GENERAL**

A Digital Panel Through Classroom Formative Assessment Instructional Strategies Using Technology

The digital revolution is transitioning our schools from paper-rich to media-rich learning environments. In the midst of these changes, a big issue arises: Technology in schools can either accelerate the momentum in effective mathematics education or undermine it. On one hand, technology can help students visualize and comprehend mathematics while supporting teachers by helping them gain deep insight into student thinking and grow professionally with web-connected communities. On the other hand, technology can water down mathematics into competitive, drill and practice games for students and relegate teachers to the role of computer proctors. Come see the debate unfold!

Arjan Khalsa, Conceptua Math, Petaluma, CA

Janet Pittock, Redbird Advanced Learning, San Mateo, CA

Jennifer Wilson, Rankin County School District, Brandon, MS

Keith Krueger, CEO, Consortium for School Networking (CoSN), Washington, DC

Nigel Nisbet, MIND Research Institute, Irvine, CA

Rosemary Heher, Worcester County Schools, Newark, MD

12:15 PM - 1:15 PM CONT...

SESSION 133 **152**
STRAND 5 **GENERAL**

Engaging ALL Learners in Mathematical Practices through Instructional Routines

Participants will learn how the Mathematical Practices and Universal Design for Learning coalesce in instructional routines that foster math practices in all students. Participants will learn how to exploit leverage points within the mathematical practices for research-based support strategies for English learners and students with learning disabilities.

Amy Lucenta, Boston Teacher Residency Program, Boston, MA
Grace Kelemanik, Boston Teacher Residency Program, Boston, MA
Susan Creighton, Education Development Center, Waltham, MA

SESSION 134 **153 A**
STRAND 4 **GENERAL**

Designing Effective Professional Learning that Makes a Difference in Student Learning

This session focuses on research-based experiences needed in a professional learning community that helps transform instruction. Effective learning experiences focus on building teachers' pedagogical base. The four elements we will highlight are content knowledge, understanding how students learn,instructional practices, and assessment.

Marji Freeman, Math Solutions, Sausalito, CA
Patty Clark, Math Solutions, Sausalito, CA

SESSION 135 **153 B**
STRAND 3 **HIGH SCHOOL (9 - 12)**

College AND CAREER Ready Math: Industry-Based Formative Assessment Lessons

ConnectEd has developed contextualized, industry-based mathematics formative assessment lessons that link concept development with workplace learning to build student engagement and opportunities for application and transfer. In this session, participants explore effective problem-based teaching strategies and industry-specific task design principles.

Kentaro Iwasaki, ConnectEd: The California Center for College and Career, Berkeley, CA

SESSION 136 **153 C**
STRAND 4 **GENERAL**

Increasing Teacher Efficacy in the Elementary Mathematics Classroom

Research has shown that teacher efficacy in the elementary classroom for teaching mathematics is very low. This presentation sheds light on using a PLC for second and third-year teachers to increase their efficacy for the teaching and learning of mathematics in the elementary classroom. Handouts and ideas provided.

Sue Vohrer, Anne Arundel County Public Schools, Annapolis, MD

SPONSOR SHOWCASE

SESSION 137 **157 B**
STRAND 2 **SECONDARY (6-12)**

Build a Growth Mindset to Accelerate Struggling Students (Grade 5 & up)

Many students who have struggled with mathematics don't believe that success is possible and stop trying. So, along with rebuilding mathematical foundations, we need to rebuild student confidence. Hear how MATH 180 is showing students that their efforts matter while providing teachers with an environment for fostering perseverance.

Marilyn Trow, Scholastic , New York, NY

TECHNOLOGY SHOWCASE

SESSION 138 **154**
STRAND 2 **GENERAL**

Digital Learning for the Common Core: Introducing Pearson Common Core System of Courses

This showcase will focus on successfully implementing the Common Core State Standards for Mathematics and the Standards for Mathematical Practice, preparing students and teachers for the new high-stakes assessments, and improving student results using an all-new coherent digital ecosystem.

Pearson Speaker, Pearson, Upper Saddle River, NJ

1:30 PM - 2:30 PM

MAJOR PRESENTATION

SESSION 139 **104 ABC**
STRAND 2 **GENERAL**

Leading Learning in the Expanding Digital Landscape: Big Ideas, Fads, and Openings

Valerie L. Mills, NCSM President, Waterford, MI

Presider: **Nancy Drickey**, NCSM Regional Director

As the digital revolution gains greater purchase in our everyday lives, mathematics education leaders are feeling increased pressure to adopt multiple technologies in support of mathematics teaching and learning. We have effectively used a few powerful etools such as graphing calculators for decades, but today there are new digital products that we sense could further transform our practice such as engaging apps, digital curricula, and other innovations. We need to ask ourselves a series of key questions, "What are the big categories of innovation around which we can organize the next evolution of practice given the expanding digital landscape?" Join us to launch NCSM's Digital Initiative.

Valerie L. Mills is the Supervisor and Mathematics Education Consultant for Oakland Schools and current President of the National Council of Supervisors of Mathematics. Oakland Schools is an educational resource center serving 28 school districts and approximately 230,000 students. During her 35+ years in education she has taught high school mathematics, served as Mathematics Department Chair, K-12 Mathematics Coordinator, and Director of Curriculum for the Ypsilanti and Ann Arbor public school districts in Michigan. In addition she was the Principal Investigator on five Mathematics and Science Partnership projects working with high needs districts, was a Teacher Author on the Core Plus Mathematics Project, President of the Michigan Council of Teachers of Mathematics, past chair of NCTM's Academy Services Committee, and has written numerous articles and professional development resources. Mills was awarded the Michigan Mathematics Education Service Award, the Presidential Award for Excellence in Mathematics and Science Teaching, and the Milken National Educator Award. She is a frequent speaker at local, state, national meetings.

SESSION 140 **103**
STRAND 4 **ELEMENTARY (K - 5)**

It's a Balancing Act

The Council of Chief State School Officers has recommended a balance between conceptual understanding, procedural skill and fluency, and application in mathematics instruction. Application is often overlooked. In this interactive session, educators will learn strategies for maximizing learning through the application of concepts and maintaining a balance between these three modalities.

Connie Thomson, Northeastern Nevada Regional Professional Development Program, Elko, NV

Valerie Byrnes, Northeastern Nevada Professional Development Program, Elko, NV

SESSION 141 **105**
STRAND 5 **GENERAL**

Changing Math Mindsets for Struggling Learners and Their Teachers

Higher expectations for student learning needs to be accompanied by the belief that everyone can learn. Learn how our district is working with teachers to address mindsets through the use of research and data with curriculum and professional development. Strategies, resources, and tools will be shared to work with teachers, parents, and students.

Samantha Wuttig, Fairbanks North Star Borough School District, Fairbanks, AK

Michelle Daml, Fairbanks North Star Borough School District, Fairbanks, AK

SESSION 142 **106**
STRAND 4 **ELEMENTARY (K - 5)**

Supporting Reflective Teaching and Meaningful Collaboration Through Various Collaborative Coaching Structures

Collaborative coaching is a protocol that combines collaborative planning, teaching, observing and debriefing with a focus on collecting and analyzing evidence of student learning. We will share this flexible model for supporting teachers in facilitated conversations about student learning in different contexts both within and across schools.

Alison Whittington, University of Chicago, CEMSE, Chicago, IL

Amanda Zimolzak, University of Chicago, Chicago, IL

1:30 PM - 2:30 PM CONT...

SESSION 143 **107 A**
STRAND 4 **GENERAL**

EQuIPing Teachers with Quality and Aligned Instructional Materials

EQuIP (Educators Evaluating the Quality of Instructional Products) is an initiative designed to identify high-quality materials aligned to the Common Core State Standards and to increase the presence of those materials in classrooms. Participants will be introduced to the EQuIP rubric and the quality review process for mathematics.

Ted Coe, Achieve, Washington, District of Columbia

SPOTLIGHT SPEAKER

SESSION 144 **107 BC**
STRAND 4 **HIGH SCHOOL (9 - 12)**

Professional Development on Geometric Transformations: Replacing Confusions with Coherence

Zalman Usiskin, The University of Chicago, Chicago, IL

Presider: **Jason Gauthier**, NCSM Fall Leadership Seminar Director

Of all the high school Common Core standards, the 11 relating to geometric transformations represent content very unfamiliar to many mathematics teachers and writers of instructional materials. As a result, confusions are common. The speaker will discuss these confusions with those in attendance and provide suggestions to overcome them.

SESSION 145 **156 A**
STRAND 1 **ELEMENTARY (K - 5)**

How Does the Implementation of the Mathematical Practices Make a Difference in Instruction?

Join us for a professional learning experience, effective use of the Mathematical Practices in the classroom. This engaging hands-on experience will empower leaders with the materials needed to support their teachers by enhancing their understanding of the critical role Mathematical Practices plays in instruction and student achievement.

Kitty Rutherford, North Carolina Department of Public Instruction, Raleigh, NC

Jennifer Curtis, North Carolina Department of Public Instruction, Raleigh, NC

SESSION 146 **156 B**
STRAND 1 **MIDDLE (6 - 8)**

Responding to Students' Written Responses: Fractions to Algebra

Participants in this session will explore how students' understanding of fractions impacts their transition into formal algebra. Student work will be examined to show how teacher feedback can assist students' move from procedural fluency to generalization and a deeper understanding of operations, properties, and algebra.

Suzanne Reynolds, St. Thomas Aquinas College, Sparkill, NY

SESSION 147 **156 C**
STRAND 1 **ELEMENTARY (K - 5)**

Great Tasks Create Opportunities for Great Practices: K-5 Students Engaged in Problem Solving

NCSM's Great Tasks illustrate how classrooms and teacher professional development can be enhanced by carefully presented problems. Tasks, discussions and student feedback strategies that embrace the Standards for Mathematical Practice Grades K-5 will be used. Collaborative opportunities for participants to create meaningful tasks will be featured.

Kit Norris, Consultant, Southborough, MA

David Pugalee, UNC Charlotte | Center for Science, Technology, Engineering, and Mathematics (STEM) Education, Charlotte, NC

Connie Schrock, Emporia State University, Emporia, KS

Richard Seitz, Helena High School, Helena, MT

SESSION 148 **157 A**
STRAND 4 **INTERMEDIATE (3 - 5)**

Supporting Mathematics Teaching and Learning in Grades 4 and 5: What Contributes to Strong Instruction?

A study involving grades 4 and 5 classrooms in the Boston Public Schools found mathematics instruction consistent with the expectations of the CCSS in many classrooms. What seems to have contributed to these strong results? What are the implications for how district leaders and mathematics coaches support mathematics teaching and learning?

Linda Davenport, Boston Public Schools, Boston, MA

Valerie Daniel, Self-Employed, Natick, MA

Heather Hill, Harvard University School of Education, Cambridge, MA

1:30 PM - 2:30 PM CONT...

SESSION 149 **157 C**
STRAND 1 **MIDDLE (6 - 8)**

Practical Ideas for Using Number Sense Activities to Get Students to Productively Argue

This workshop will focus on helping teachers create productive mathematical discourse and constructive argumentation, using sentence frames as tools for scaffolding. Leaders will explore activities connected to the CCSS that teachers can use with students to construct viable arguments, critique the reasoning of others, and use sense-making.

Andrew Stadel, Tustin Unified School District, Tustin, CA

SESSION 150 **151 AB**
STRAND 5 **ELEMENTARY (K - 5)**

(How) Can Explicitness About Mathematical Practice Support Equitable Instruction?

The CCSS names complex mathematical goals, in terms of the ideas, skills, and practices that students are expected to learn. We will focus on three practices that can make complex mathematical work explicit for and attainable by all students: -a) making shared public records; -b) using definitions; and -c) analyzing conditions of a problem.

Meghan Shaughnessy, University of Michigan, Ann Arbor, MI

Deborah Ball, University of Michigan, Ann Arbor, MI

Lindsey Mann, University of Michigan, Ann Arbor, MI

Nicole Garcia, University of Michigan, Ann Arbor, MI

SESSION 151 **152**
STRAND 4 **ELEMENTARY (K - 5)**

One-Size PD Does Not Fit All: Strategies to Differentiate Professional Learning for Teachers on Fractions (CCSS)

Explore ways to differentiate PD to meet teachers' wide range of mathematics knowledge and learning needs. Try differentiated activities for building teachers' mathematical understanding and their use of effective practices to improve student learning. Create Choice Points that allow teachers to individualize the PD. Leave with planning tools and ideas to apply.

Amy Brodesky, Education Development Center, Waltham, MA

Emily Fagan, Education Development Center, Waltham, MA

SESSION 152 **153 A**
STRAND 5 **INTERMEDIATE (3 - 5)**

Getting at the Heart of Mathematical Thinking

Students are expected to use visual models when exploring mathematical ideas. NCTM Principles to Action lists Use and Connect Mathematical Representations as one of eight Mathematical Practices effective teaching. Come and learn how representations help deepen understanding of mathematical concepts and actually lie at the heart of problem solving.

Melissa Hedges, UW-Milwaukee, Milwaukee, WI

Beth Schefelkler, Milwaukee Public Schools, Milwaukee Public Schools, WI

SESSION 153 **153 B**
STRAND 5 **GENERAL**

Examining Instructional Materials and Improving Alignment to the Common Core

In this session, learn about materials alignment based on the Common Core State Standards and how to evaluate materials for quality. Guidance will be given about purchasing new materials, reviewing existing materials, and how to help teachers shore up weaknesses in adopted materials.

Jason Zimba, Student Achievement Partners, New York, NY

Beth Cocuzza, Student Achievement Partners, New York, NY

SESSION 154 **153 C**
STRAND 4 **GENERAL**

Supporting Teacher Teams with Talk Protocols

Teaching is a complex, dynamic activity. Working as a member of a team that studies its own teaching is a critical but unfamiliar role for many educators. Team work is a skill that is learned and can be improved. The protocols we will share help support teams of educators learn how to better collaborate to improve their practice.

Jesse Johnson, New Visions for Public Schools, New York, NY

Sara Toguchi, New Visions for Public Schools, New York, NY

SPONSOR SHOWCASE

SESSION 155 **157 B**
STRAND 1 **GENERAL**

Math Forum's Problems of the Week: Practice for Online Assessments

Many states are adopting new assessments that focus on students' ability to solve complex problems and explain their thinking by typing their thoughts into the computer. Learn how the Math Forum's online Problems of the Week, along with activities from our recent book, give students practice with online environments and the mathematical practices.

Annie Fetter, The Math Forum @ Drexel, Philadelphia, PA

Max Ray, The Math Forum @ Drexel, Philadelphia, PA

1:30 PM - 2:30 PM CONT...

TECHNOLOGY SHOWCASE

SESSION 156 154
STRAND 2 INTERMEDIATE (3 - 5)

Leverage the Power of Adaptive Technology to Meet Rigorous Goals

Your standards require all students to be fluent with whole number operations by the end of grade 3 so that they can excel with higher-level mathematics. This session will focus on leveraging individualized instruction. With mobile technology from Scholastic's FASTT Math Next Gen, students can meet new rigorous goals!

Tamara Bousquet, Scholastic, New York, NY

2:45 PM - 3:45 PM

MAJOR PRESENTATION

SESSION 157 104 ABC
STRAND 1 GENERAL

This Little Light of Mine, I'm Gonna Let It Shine!

Lee V. Stiff, North Carolina State University, Raleigh, NC

Presider: **John Staley**, NCSM President Elect

For students to be successful in mathematics classrooms, they must first be given the opportunity to achieve. All students should be properly evaluated to determine the types of experiences they need to maximize their mathematical learning. Curricula choices and course-taking opportunities afforded students should be based on objective feedback tied to student performance. Once students are given the opportunity to learn, administrators and teachers must become proactive in creating learning situations and structures that enhance student success. This presentation will offer approaches to achieve these goals, especially as they relate to the Mathematical Practices of today's classrooms.

Lee V. Stiff is a professor of mathematics education in the College of Education at North Carolina State University, a position he has held since 1983. Prior to this position, Dr. Stiff taught mathematics in middle grades and high school. During his academic career he has been recognized for his work via the Reginald V. Blackmon Award for Excellence in Teaching (1980), the W. W. Rankin Memorial Award for Excellence in Mathematics Education given by the North Carolina Council of Teachers of Mathematics (NCCTM) (1992), the Provost's African-American Professional Development Award (NCSU, 1993), a Fulbright Scholar Award to the Department of Mathematics of the University of Ghana (1995-1996), and membership in the Honor Society of Phi Kappa Phi (NCSU).

From 2000 to 2002, Dr. Stiff served as President of the National Council of Teachers of Mathematics (NCTM). As a leader in mathematics education, Dr. Stiff has served on MULTIPLE BOARDS AND NATIONAL ORGANIZATIONS.

He is a co-founder and President of EDSTAR Analytics, Inc., a consulting firm that provides school districts with the capacity to use data-driven decision models to improve student success and teacher effectiveness. He is also the President of Morgan's Mark, a movie production/editing company based in Los Angeles recently screening the film, ANT, on FUTURESTATES TV of ITVS (The Independent Television Service). Since 1989, Dr. Stiff has been a co-author of elementary, middle grades, and high school textbooks in mathematics currently published by Houghton Mifflin Harcourt and Holt McDougal.

2:45 PM - 3:45 PM CONT...

SESSION 158 **103**
STRAND 1 **GENERAL**

Enacting the CCSS: Preparing A Next Generation of Mathematics Teacher Leaders

This session provides an overview of our work to develop future mathematics teacher leaders in the state of Washington,including deep level changes that future teacher leaders are making in their classrooms, the tools and technologies that have helped them as they work to change their practice, and the resources developed to support them in new leadership roles.

Ruth Parker, Mathematics Education Collaborative (MEC), Ferndale, WA

SESSION 159 **105**
STRAND 5 **SECONDARY (6-12)**

When Questions of Equity Are Actually Questions About Mathematics

Issues of equity are often discussed across disciplines. Yet mathematics has been used in ways that maintain inequity. Thus, we must consider issues of equity within the context of mathematics. We will share an immersive opportunity that tackles how the common practice of mathematics in schools undermines the creation of equitable classrooms.

Eden Badertscher, Education Development Center, Inc., Waltham, MA

Al Cuoco, Education Development Center, Inc., Waltham, MA

SESSION 160 **106**
STRAND 1 **ELEMENTARY (K - 5)**

Using a Collaborative Walkthrough Process to Build Capacity for Rigorous Math Instruction

A district team of teachers, administrators, math interventionists, and a math coach will share how they have worked together to refine a school-based instructional walkthrough process in order to build capacity and accountability. The team developed school and district goals to improve mathematics instruction through focussing on the CCSSM Mathematical Practice.

Sarah Caban, Maranacook School District, Readfield, Maine

Lynette Stinneford, Maranacook School District, Wayne, ME

Christine Mohlar, Maranacook School District, Readfield, ME

Nancy Harriman, Maranacook School Distric, Readfield, ME

Jeff Boston, Maranacook School District, Readfield, ME

Abby Shink, Maranacook School District, Readfield, ME

SESSION 161 **107 A**
STRAND 4 **SECONDARY (6-12)**

Does One Lesson Matter? Using Action Research to Help Teachers Grow and Change

Mathematics coaches often spend time trying to convince mathematics teachers to try innovative research-based strategies in their classroom. This change is too daunting for many teachers. In this session we will discuss how action research can be used to motivate teachers to implement new teaching strategies.

Linda Griffith, NCSM S2 Regional Director, Conway, AK

SPOTLIGHT SPEAKER

SESSION 162 **107 BC**
STRAND 3 **GENERAL**

The Decisions and Shifts Required by the Common Core State Standards

David Foster, Silicon Valley Mathematics Initiative, Morgan Hill, CA

Presider: **Cheryl Avalos**, NCSM Affiliate Chair

Teachers are confronted with a significant change in K-12 education, due to the CCSSM. These shifts require changes in mathematics content, instructional practices, and the demands on students. The next generation assessments challenge students to think and do mathematics differently. Curricular and assessment tools will be introduced and shared.

SESSION 163 **156 A**
STRAND 2 **MIDDLE (6 - 8)**

The CCSS, Ratios and Proportional Reasoning: Implications for Teacher Leaders

An interactive discussion will focus on a technology-leveraged approach for building ratio concepts and bringing coherence to developing proportional reasoning. Research can help us inform the practice of teachers with whom we work to make the shifts advocated by the CCSS.

Tom Dick, Oregon State University, Corvallis, OR

Gail Burrill, Michigan State University, East Lansing, MI

2:45 PM - 3:45 PM CONT...

SESSION 164 **156 B**
STRAND 3 **ELEMENTARY (K - 5)**

Connecting Formative Assessment & Teachers' Talk in PLCs to Understand Students' Thinking & Inform Instruction

This session will help coaches and teacher leaders work with PLCs in order to support teachers in understanding students' thinking and diagnosing misconceptions. Participants will gain insights into how teachers' use of descriptive talk when discussing students' thinking and strategies may impact how effectively they design targeted interventions.

Crystal Lancour, Colonial School District, New Castle, DE

Jennifer Anderson, Colonial School District, New Castle, DE

SESSION 165 **156 C**
STRAND 1 **HIGH SCHOOL (9 - 12)**

Reinventing Algebra in a Common Core World

The Common Core has done little to improve the coherence of the 9-12 mathematics curriculum. This is especially true of algebra which seem mostly unchanged from decades past. This session will describe a realistic scope and sequence for high school algebra drawn from a grass roots effort to make significant changes to improve Algebra 1 and II.

Eric Milou, Rowan University, Glassboro, NJ

SESSION 166 **157 A**
STRAND 3 **GENERAL**

Lesson Study: A Vehicle to Support the Intentional and Systematic Use of Formative Assessment in Classrooms

This session will feature the use of lesson study as one aspect of a K-8 district's multifaceted approach to implement and support the intentional and systematic use of formative assessment in its classrooms. Attendees will engage in a variety of lesson study activities focused on supporting formative assessment practices in classrooms.

Marjorie Petit, Marge Petit Consulting, MPC, Moretown, VT

Mary Abele-Austin, Thatcher Brook Primary School, Waterbury, VT

SESSION 167 **157 C**
STRAND 4 **SECONDARY (6-12)**

A University-School Partnership to Support Novice Teachers' Purposeful Planning for Instruction

This session engages participants in discussing how to support novice teachers by sharing a university-school partnership that focused on novice secondary mathematics teachers' purposeful planning. We will share program activities and discuss findings related to what and how participants engaged and the role of the facilitators in supporting this.

Lorraine Males, University of Nebraska-Lincoln, Lincoln, NE

Joshua Males, Lincoln Public Schools, Lincoln, NE

SESSION 168 **151 AB**
STRAND 5 **MIDDLE (6 - 8)**

Middle School Mathematics Teachers' Perceptions of the Common Core: Standards, Assessments, and Teacher Evaluation

In this session, we will discuss findings about middle school mathematics teachers' perceptions of the Common Core State Standards for Mathematics (CCSSM), resources teachers use to interpret and implement CCSS, teachers' experiences implementing CCSSM, and teachers' views on CCSSM-related high-stakes assessments and teacher evaluation systems.

Jon Davis, Western Michigan University, Kalamazoo, MI

Jeffrey Choppin, University of Rochester, Rochester, NY

SESSION 169 **152**
STRAND 4 **ELEMENTARY (K - 5)**

Teacher Time Out: A Way to Supporting the Collective Learning of Educators

This session examines how a coaching routine, Teacher Time Out, supported professional learning as educators worked together in settings with students present to develop high-quality instructional practices. Video of the routine will be examined and implications for coaches and district leaders will be considered.

Lynsey Gibbons, University of Washington, Seattle, WA

Allison Hintz, University of Washington, Bothell, WA

Elizabeth Hartmann, University of Washington, Seattle, WA

2:45 PM - 3:45 PM CONT...

SESSION 170 **153 A**
STRAND 1 **GENERAL**

Instructional Routines: The Key for Teachers to Foster the Mathematical Practices in All Students

Participants will learn how teachers are embedding a set of practice-prompting instructional routines in their classrooms. Each routine, designed to provide access to a wide range of learners, develops the thinking and reasoning of a specific mathematical practice. Learn how teachers effectively plan for, rehearse, and enact these routines.

Grace Kelemanik, Boston Teacher Residency Program, Boston, MA

Amy Lucenta, Boston Teacher Residency Program, Boston, MA

SESSION 171 **153 B**
STRAND 4 **GENERAL**

Effective Strategies for Planning and Teaching CCSS Aligned Lessons

Learn about coaching and supporting specific teacher and student behaviors in CCSS-aligned lessons while examining the Instructional Practice Guide. We'll address research- based teaching strategies that engage all learners and share free digital resources that support effective planning, coaching, and self-reflection.

Barbara Beske, Student Achievement Partners, New York, NY

Beth Cocuzza, Student Achievement Partners, New York, NY

SESSION 172 **153 C**
STRAND 5 **INTERMEDIATE (3 - 5)**

A Rigorous Approach to Teaching Fractions That All Students Can Master: Fantasy or Reality?

Operations with fractions was a difficult topic at grade 6, but now the CCSS calls for students to add, subtract, multiply, and partially divide fractions by the end of grade 5. New approaches such as Cognitively Guided Instruction, however, are making this rigorous content accessible to ALL students.

Eric Siegel, Generation Ready, New York, NY

Mark Koester, Metropolitan State University of Denver, Denver, CO

HOT TOPICS CONVERSATION CAFÉ

3:00 PM - 3:45 PM

SESSION 175 **EXHIBIT HALL B1 NE**
GENERAL

TABLE 1 **Greg Tang**, GregTangMath.com, Cambridge, MA ***Why Students Still Don't Know Their Basic Facts***

TABLE 2 **Beth Herbel-Eisenmann**, Michigan State University, East Lansing, MI ***How Can Leaders Advocate for Teachers in Current Times***

TABLE 3 **Elham Kazemi**, University of Washington, Seattle, WA ***Developing a School-wide Learning and Coaching Culture***

TABLE 4 **Kyndall Brown**, UCLA, Los Angeles, CA ***Access and Equity***

SPONSOR SHOWCASE

SESSION 173 **157 B**
STRAND 2 **GENERAL**

Experience Math with Awesome Games and Online Tools

When implemented correctly, online tools allow students to engage in mathematical practices in a meaningful way. In this session, we'll play Mini Golf, Angle Explorer, and Shape Shifter to learn about angles and arithmetic sequences. See how teachers can use the inquiry approach to build deep understanding. Do the math with us and have fun at the same time!

Patrick Vennebush, Discovery Education, Silver Spring, MD

TECHNOLOGY SHOWCASE

SESSION 174 **154**
STRAND 2 **SECONDARY (6-12)**

Ensure Progress to Algebra with MATH 180 Course II (Grade 6 & up)

The standards demand that all students be ready for algebra. Be the first to experience our new MATH 180 Course II curriculum. Transition struggling students to pre-algebra with a focus on proportional reasoning with rates, ratios, and more—while providing them with a personalized learning experience that accelerates their learning and confidence.

Lea Ozeri, Scholastic, New York, NY

4:00 PM - 5:00 PM

MAJOR PRESENTATION

SESSION 176 **104 ABC**
STRAND 4 **GENERAL**

Building District Leadership Capacity in Mathematics

Linda Curtis-Bey, NYC Department of Education, New York, NY

Presider: **Jon Manon**, NCSM Treasurer

Many school and district leaders lack the proficiency and confidence to supervise and effectively improve mathematics instruction in their schools, although mathematics is a core foundational subject that is assessed at the district, state, national, and international levels. The question we need to answer is not only "what" is needed to improve mathematics instruction, but "who" is needed to make significant and meaningful change. Or, as a good friend of mine has often asked, "Who is the keeper of mathematics?" This presentation will address the many challenges school and district leaders face and attempt to answer both the "what" and the "who".

Linda Curtis-Bey is the Executive Director of STEM with NYC Department of Education and has over 20 years of experience in education. She began her career as an elementary teacher in Brooklyn. She represents the city as a member of the NYS Science Content Advisory Panel and the NYS Math Advisory Panel; and, has represented the city and State as a working group member of the Presidential Council of Advisors on Science and Technology from 2009 to 2010. Linda serves as an expert advisor for 100Kin10 (a national initiative to train 100,000 STEM teachers by 2021); as a member of the Advisory Committee for the College Board's Advanced Placement Higher Education; and as a member of the Advisory Committee for Lehman College's Mathematics Teacher Transformation Institute. She is a former adjunct professor at Brooklyn College and the Bank Street College of Education. Linda holds a Bachelor of Arts degree from Sarah Lawrence College; a Masters degree in Environmental and Occupational Science from Hunter College; and, a Masters degree in Education and a Doctorate in Urban Education Leadership from Teachers College, Columbia University. Prior to beginning her career in education, Linda worked in the corporate world for both International Business Machines and Pan American World Airways. She has three children she homeschooled until third grade.

SESSION 177 **103**
STRAND 1 **SECONDARY (6-12)**

Measuring Secondary Teachers' Use of Standards for Mathematical Practice (SMP)

We describe a paper and pencil assessment that measures secondary teachers' use of the SMP. We designed the assessment not to evaluate individual teachers, but to assess the effectiveness of PD programs designed to develop these mathematical practices in teachers. In this session, participants will engage with items and rubrics from the assessment.

Ryota Matsuura, St. Olaf College, Northfield, MN

Sarah Sword, Education Development Center, Inc., Waltham, MA

Miriam Gates, Education Development Center, Inc., Waltham, MA

Jane Kang, Education Development Center, Inc., Waltham, MA

Al Cuoco, Education Development Center, Inc., Waltham, MA

Glenn Stevens, Boston University, Boston, MA

SESSION 178 **105**
STRAND 3 **GENERAL**

Leading Teachers through Formative Assessment: Modeling Processes in Supervision and Professional Development

Research shows effective formative assessment practices have greater impact on student achievement than other interventions. How effective are your teachers at implementing formative assessment processes? In what stage of PRIME assessment leadership are you? Involve your teachers in the formative assessment process to advance their efficacy.

Katie England, Mongomery County Public Schools, Rockville, MD

SESSION 179 **106**
STRAND 1 **INTERMEDIATE (3 - 5)**

Noticing, Articulating, and Proving Generalizations: A Context for Leveraging Mathematical Practices

Video cases will be presented to illustrate how Mathematical Practices 2, 3, 6, and 8 are enacted as students are challenged to notice, articulate, and prove generalizations about the behavior of the operations.

Deborah Schifter, Education Development Center, Waltham, MA

4:00 PM - 5:00 PM CONT...

SESSION 180 **107 A**
STRAND 1 **ELEMENTARY (K - 5)**

A Systematic Approach for Implementing Mathematical Processes and Practices

How can we use strategies that develop academic language, increase student communication, and utilize formative assessment to support diverse learners and increase student achievement? Join us as we explore how one district approached these efforts in a systematic manner that honored teachers' autonomy and supported a student-focused environment.

Janet Nuzzie, Pasadena ISD, Pasadena, TX

SPOTLIGHT SPEAKER

SESSION 181 **107 BC**
STRAND 1 **PRIMARY (PK - 2)**

Making Mileage with the Mathematical Practices in the Early Years

Stuart Murphy, Self-Employed, Boston, MA

Presider: **Marianne Srock**, NCSM Secretary

Are the Standards for Mathematical Practices applicable to our youngest students? Absolutely! The key to early mathematics instruction is how we do it. We must work together to assure that the practices are implemented in ways that are age-level appropriate and that will help young students develop positive and productive dispositions toward mathematics.

SESSION 182 **156 A**
STRAND 1 **GENERAL**

Rich Tasks that Highlight Structure (MP7) & Regularity (MP8)

Structure and Regularity are essential in mathematics. If we are to increase achievement for all students, mathematics leaders must help teachers identify how MP7 and MP8 play out in the mathematics students learn. In this session we will present rich tasks, such as mental arithmetic and problem-solving situations that highlight MP7 and MP8.

Judith Jacobs, JEJMath, Ltd., Ann Arbor, MI

Dave Kennedy, Shippensburg University, Shippensburg, PA

Diana Sherman, University of Michigan, Ann Arbor, MI

SESSION 183 **156 B**
STRAND 1 **MIDDLE (6 - 8)**

Designing Contextualized Learning Environments to Support Common Core Amongst Heterogeneous Student Groupings

This presentation will provide participants with insight into designing and supporting context based learning environments which deeply embed and support students exploration and use of the Common Core Mathematical Practices. Participants will also see specific examples of how students exercise these practices on complex performance tasks.

Patrick Hoover, CICS ChicagoQuest, Chicago, IL

SESSION 184 **156 C**
STRAND 4 **ELEMENTARY (K - 5)**

A Vision of Success: Empowering Coaches with Effective Strategies and Visual Tools for Developing Fact Fluency

The Common Core stresses the development of thinking strategies before written methods, but students need powerful visuals models to help form a "mind picture" that links to the strategy. This workshop will demonstrate easy-to-make visual aids that coaches can use to help students master all basic fact strategies with understanding.

James Burnett, ORIGO Education, Earth City, MO

SESSION 185 **157 A**
STRAND 2 **ELEMENTARY (K - 5)**

Using a Visual Approach to Triple Student Achievement for All Students (ELL, Special Ed., New Immigrants, & General Ed.)

Hear from administrators, math coaches and teachers from Groton, CT; New York City, NY; and Lawrence, MA as to how they have used the Spatial Temporal Math software program as a transformational tool in support of higher achieving students and the development of scalable teacher practices.

Inaya Assal, PS 152 Dyckman Valley, New York, NY

Lori Butterfield, Guilmette Elementary School, Lawrence, MA

SESSION 186 **157 C**
STRAND 3 **SECONDARY (6-12)**

Developing Teacher Practices and Student Reasoning with Formative Assessment Lessons

Results from case studies of secondary mathematics teachers using Formative Assessment Lessons to develop students' mathematical practices show teachers' emerging understanding of formative assessment and highlights differences in teachers' eliciting and leveraging of student thinking. I will share tools to support teacher planning and reflection.

Kimberly Seashore, U.C. Berkeley, Berkeley, CA

4:00 PM - 5:00 PM CONT...

NCSM TEAM LEADER MEETING

SESSION 187 **151 AB**

Regional Directors and State Team Leaders

This meeting of the NCSM State Team Leaders and NCSM Regional Directors will focus on the critical work of NCSM for 2015-2016. In particular we will discuss future plans for state and provincial meetings, Regional Leadership Seminars, and professional development ideas using new NCSM products. This meeting is for invited team leaders. NCSM would like to thank ETAHand2Mind for graciously supplying the refreshments for this meeting.

Valerie L. Mills, NCSM President, Waterford, MI

Mona Toncheff, NCSM W1 Regional Director, Phoenix, AZ

SESSION 188 **152**
STRAND 3 **MIDDLE (6 - 8)**

Using Professional Learning Communities to Improve Teachers' Use of Formative Assessment: Increasing Student Learning

Learn how Professional Learning Communities (PLCs) are utilized to help teachers improve their use of formative assessment in order to increase students' mathematics learning. Participants will examine students' responses, classroom vignettes, and notes from PLC meetings in order to discuss how formative assessment practices are being developed.

Marilyn Strutchens, Auburn University, Auburn, AL

Megan Burton, Auburn University, Auburn, AL

SESSION 189 **153 A**
STRAND 2 **SECONDARY (6-12)**

From Solid to Solid: Designing Professional Development on Using Concrete Manipulatives to Cement Student Understanding

Depth of understanding is important. The Concrete-Representational-Abstract (CRA) model supports conceptual understanding while building connections between student experiences and abstract concepts. We will focus on professional development regarding implementation of the CRA model can be differentiated based on the intended audience while sending a consistent message.

Yvonne Spalding, Topeka Public Schools , Topeka, KS

Sara Frisbie, Topeka Pubic Schools, Topeka, KS

SESSION 190 **153 B**
STRAND 3 **MIDDLE (6 - 8)**

Eliciting Mathematics Misconceptions: Validated Resources to Support Formative Assessment in Fraction and Decimal Topics

In this session participants will explore validated diagnostic assessments and support materials designed to help elicit commonly held misconceptions related to grades 4-6 CCSS rational number concepts and learn about the open source online environment developed to administer assessments and produce targeted reports on students' misconceptions.

Pamela Buffington, Education Development Center, Gardiner, ME

Cheryl Tobey, Education Development Center, Gardiner, ME

Michelle Cerrone, Michelle Cerrone , NY 10014 , New York, NY

SESSION 191 **153 C**
STRAND 2 **SECONDARY (6-12)**

Create Deep Understanding by Integrating Technology and Rich Tasks That Provide Active Engagement and Encourage Inquiry

In this highly interactive session, discover how to motivate your teachers and coaches to increase student learning and encourage meaningful collaboration with two superb activities. Get answers to: "How do we implement the CCSS and Practices and still teach the ideas and make connections?" Obtain all ready-to-use materials.

Tom Reardon, Youngstown State University, Youngstown, OH

SPONSOR SHOWCASE

SESSION 191.5 **157 B**
STRAND 1 **PRIMARY (PK - 2)**

Bring Your Handwritten Math to Life with FluidMath

It's 2015 and tablets and other digital writing surfaces are becoming as ubiquitous as paper and pencil, but math teachers and students still handwrite math on paper every day. What if graphs, tables, solutions, and animations derived from your handwritten math could come to life on your writing surface? From Arithmetic to Algebra to Calculus come see how FluidMath brings your handwritten math to life on tablets and Interactive Whiteboards.

Donald Carney, na, Somerville, MA

Andrew Forsberg, Fluidity Software, Somerville, MA

4:00 PM - 5:00 PM CONT...

TECHNOLOGY SHOWCASE

SESSION 192 **154 GENERAL**

Redbird Mathematics: The Next Generation of Stanford University's Digital K-7 Math Curriculum

Based in foundational and ongoing research at Stanford Based in foundational and ongoing research at Stanford University, Redbird Advanced Learning is pleased to debut Redbird Mathematics, an innovative K-7 digital curriculum for CCSS. Redbird Mathematics features advances in adaptivity, gamification, and STEM project-based learning leading to authentic engagement and personalization for digital natives!

Matthew Fields, Redbird Advanced Learning, San Mateo, CA

Andrew Lippert, Redbird Advanced Learning, San Mateo, CA

Janet Pittock, Redbird Advanced Learning, San Mateo, CA

Jason Green, Redbird Advanced Learning, San Mateo, CA

5:15 PM - 5:45 PM

SESSION 194 **156 A GENERAL**

What's it All About? An Orientation for Those New to the NCSM Annual Conference

This is a repeat of the morning session for those who are new to NCSM Conferencing. Participants will network with others, review the structure of the conference, explore the different conference options, set personal priorities and goals, and work on a personal plan of what to do and where to go during the conference.

Sharon Rendon, CPM Coaching Coordinator, Summerset, SD

SESSION 193 **5:05 PM - 5:30 PM** **107 BC**

The Main Street Kids' Club: A MathStart Musical

Rollicking, mathmatizing songs from this acclaimed musical based on stories from Stuart J. Murphy's MathStart series. Playwright Scott (Schoolhouse Rock Live!) Ferguson has crafted an original story of adventure, mystery, friendship...and mathematics! "Math Skills are Life Skills!" says the sign on the wall of the clubhouse — and they are lots-of-fun skills!

Watertown Children's Theatre, Watertown Children's Theatre, Boston, MA

This is a special performance sponsored by Pearson

PEARSON

MONDAY RECEPTION

5:30 PM - 7:00 PM

SESSION 195 **TICKET REQUIRED** **LEVEL 3 BALLROOM LOBBY**

Monday night reception with Redbird Advanced Learning

Grounded in foundational and ongoing research by Stanford University, Redbird Advanced Learning is uniquely positioned at the intersection of learning science and advanced technology. Our mission is to transform lives by harnessing the power of research, technology and innovation. By combining the research capabilities of Stanford University with advanced learning technologies, we offer innovative educational solutions that help students achieve their ultimate potential. This year at NCSM, we are celebrating the debut of REDBIRD MATHEMATICS, our ground breaking new digital curriculum for CCSSM. REDBIRD MATHEMATICS features a combination of multi-modal multimedia instruction, advanced gamification, STEM-themed digital project-based learning, and highly sophisticated continually adaptive assessment. REDBIRD MATHEMATICS is not only designed to prepare students for success on today's digitally delivered, high stakes assessments, but also to inspire a love for mathematics and to provide students with an authentically relevant, highly personalized, just-in-time educational experience.

Visit us at Booth #608 and see our ad on the inside back cover of the program to learn about events celebrating the debut of REDBIRD MATHEMATICS. WIN an iPhone 6 or an iPad Air by tweeting your creative picture of our logo (found in your conference bag) to @redbirdlearning with hashtags #NCSM15 and #redbirdmathematics. Prizes awarded at the Monday Reception and Booth #608. Join us for a ticketed reception.

Nick Stutzman, Redbird Advanced Learning, San Mateo, CA

REDBIRD ADVANCED LEARNING

VISIT US AT BOOTH #608

NOTES

TUESDAY PROGRAM

Session Types:

Major Sessions
Spotlight Sessions
Regular Sessions
Hot Topic Conversation Café
Commercial Sessions:
- Sponsor Showcases
- Technology Showcases

NCSM Regional Caucuses at 3:45 pm – 4:45 pm
(check locations in the program pages for Tuesday)
NCSM Business Meeting at 4:30 pm – 5:15 pm in room 151AB

Ticketed Events:

Breakfast –Sponsored by **Scholastic Inc. (ticket required)**
Meals & Functions Area of Exhibit Hall B1 of the Boston Conference & Exhibit Center

Luncheon – Sponsored by **Texas Instruments (ticket required)**
Meals & Functions Area of Exhibit Hall B1 of the Boston Conference & Exhibit Center

Registration

7:00 am – 5:00 pm Level 1 in the North East Lobby area of the Boston Convention and Exhibit Center

Sponsor Displays

8:30 am – 4:00 pm in the Exhibit Hall B1of the Boston Convention and Exhibit Center

Use the Conference Planner at the end of this book to outline your daily schedule.

Wear your NCSM Conference Name Badge to gain entrance to sessions, ticketed events, and the sponsor display area.

Please obey Fire Code standards in sessions—No standing; no sitting on the floor; no moving of chairs from one room to another.

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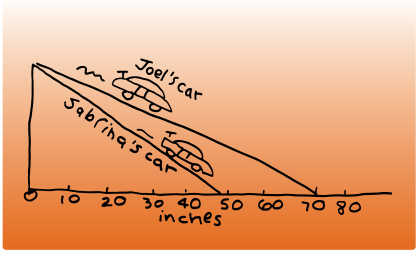

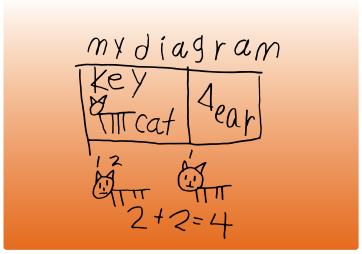

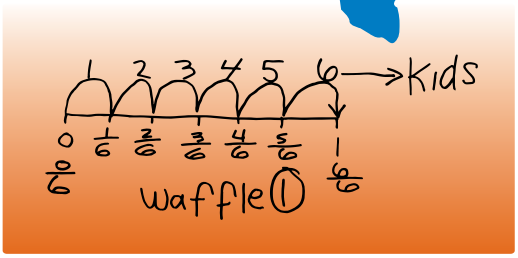

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— 5th Grade Teacher, Mantua Township School District, NJ

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— Principal, Chester Union Free School District, NY

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PROGRAM SUMMARY INFORMATION FOR TUESDAY, APRIL 14

See page 5 for Conference Strand descriptions.

NOTES

TUESDAY SUMMARY

7:30-8:30: Session 200: Breakfast (ticket required), Exhibit Hall B1 NW, Sponsored by *Scholastic*

	104 ABC	103	105	106	107 A	107 BC
8:45-9:45	**Session 201** Strand 5, General ***Larson,*** *Overcoming Obstacles to Make Mathematics Work for All!*	**Session 202** Strand 5, Secondary (9-12) ***Cook, Ristroph,*** *"College Prep" Mathematics Courses: Effectively Transitioning "Non-Ready" Students from High School to College*	**Session 203** Strand 1, Elementary (K-5) ***Boerst, Suzuka, Van Dine,*** *Professional Development that Supports Teachers' Use of Learning Trajectories*	**Session 204** Strand 3, General ***Philhower, Jones, Kepner,*** *Supporting Elementary and Secondary Mathematics Teachers' Formative Assessment Practices*	**Session 205** Strand 4, General ***McGatha,*** *What Does the Research Say About Mathematics Coaching? An Update*	**Session 206** Strand 4, General ***Fulmore,*** *It's TIME - Beyond Great Standards: Important Steps in Taking Leadership for Equity and Social Justice*
10:00-11:00	**Session 219** Strand 4, Elementary (K-5) ***Kazemi,*** *Developing a School-Wide Culture of Collective Risk Taking and Learning: It's Not Easy But Why It's Worth It*	**Session 220** Strand 1, Secondary (6-12) ***Boyle, Bleiler, Yee, Ko,*** *Constructing Viable Arguments and Critiquing the Reasoning of Others: Where to Start?*	**Session 221** Strand 3, Middle (6-8) ***Phillips, Grant,*** *Integrating Rich Tasks, The Mathematical Practices, and Classroom Discourse to Enhance Planning, Teaching, and Assessing*	**Session 222** Strand 2, General ***Bos,*** *Affordances of an Interactive, Web-Based Visual Representation of a Dynamic Object*	**Session 223** Strand 3, General ***Mirabelli,*** *PARCC Update*	**Session 224** Strand 4, Elementary (K-5) ***Fennell, Kobett, Sammons, Wray,*** *Mathematics Specialists/Instructional Leaders - Considering Professional Development Using Flipped PD: You Can Do This!*
	EXHIBIT HALL B1 NE **10:15-11:00**	**Session 237** General ***HOT TOPICS*** ***Larson, Curtis-Bey, Fuson, Honey***				
11:15-12:15	**Session 238** Strand 5, Elementary (K-5) ***Karp,*** *Teaching K-5 Students Who Struggle in Mathematics*	**Session 239** Strand 5, Middle (6-8) ***Olson, Teuscher, Dingman,*** *Shifting Opportunities to Teach and Learn in Common Core "Aligned" Textbooks: Implications for Depth and Equity*	**Session 240** Strand 5, High School (9-12) ***Sutorius,*** *Sense-Making, the Ultimate Intervention*	**Session 241** Strand 3, Intermediate (3-5) ***Gray, Steele,*** *Something to Talk About: Assessing Student Reasoning and Thinking*	**Session 242** Strand 1, General ***Revuluri, Tavormina,*** *Sharing Lenses, Catalyzing Reflection: Coaches and Principals Seeing the SMP in Action, Together*	**Session 243** Strand 1, Elementary (K-5) ***Burns,*** *Helping Teachers Integrate the Mathematical Practices into Classroom Instruction*

12:30-2:00: Session 256: Luncheon (ticket required), Sponsored by *Texas Instruments*, Exhibit Hall B1 NW

2:15-3:15	**Session 257** Strand 1, Elementary (K-5) ***Fuson,*** *Research-Based Learning Progressions in the K-6 CCSS and the Mathematical Practices*	**Session 258** Strand 1, Secondary (6-12) ***Buckner, McPherson,*** *Making All Students Proficient in Making Sense of Problems and Preserving in Solving - It's a Team Effort!*	**Session 259** Strand 5, High School (9-12) ***Johnson, Martin, Sauer,*** *Supporting Algebra 1 Teachers' Implementation of CCSS: A Research + Practice Partnership*	**Session 260** Strand 4, Secondary (6-12) ***Humphreys,*** *High School Number Talks as Agents of Change in Classroom Culture*	**Session 261** Strand 4, High School (9-12) ***Hart,*** *Occam's Razor: A Leadership Tool to Help Simplify, Cut to the Chase, Improve Student Learning, and Preserve Our Sanity*	**Session 262** Strand 4, Middle (6-8) ***Leinwand,*** *Insights on What I've Learned Coaching Teachers and Coaching Coaches*

5:30-7:00: Session 287: Reception (ticket required), Sponsored by *Discovery Education*, Level 3 Ballroom Lobby

TUESDAY SUMMARY

7:30-8:30: Session 200: Breakfast (ticket required), Exhibit Hall B1 NW, Sponsored by *Scholastic*

	156 A	156 B	156 C	157 A	157 C	151 AB
8:45-9:45	**Session 207** Strand 4, General ***Rieke, Lane,*** *Building and Maintaining a K-12 System of Quality Mathematics Instruction from a District and Classroom Perpective*	**Session 208** Strand 5, Secondary (6-12) ***Bush, Gould,*** *Getting to the Heart of Equity and Rigorous Tasks and Instruction that Supports a Growth Mindset*	**Session 209** Strand 2, Secondary (6-12) ***Gray,*** *Using a Digital Open-Source Education Resources in the Secondary Mathematics Classroom*	**Session 210** Strand 4, Elementary (K-5) ***Gray, Thornburg, Nauman, Leach, Hutchison,*** *Moving a School Through Number Talks: Examining School Structures and Improving Mathematical Classroom Discourse*	**Session 211** Strand 5, Intermediate (3-5) ***Silbey,*** *Success! Collaborative, Innovative Problem Solving Aligned to the Mathematical Practices*	**Session 212** Strand 5, General ***Treisman,*** *Kay Gilliland Equity Lecture*
10:00-11:00	**Session 225** Strand 5, Elementary (K-5) ***Burton,*** *Supporting Teacher Teams in Meeting the Needs of All Students in Inclusive Classrooms: Involving All Educators*	**Session 226** Strand 4, Intermediate (3-5) ***Matthews, Matthews,*** *Three Concrete Ways Coaches Can Support Teachers*	**Session 227** Strand 3, General ***Ganguly, Davenport, Henry, Thorlichen, Sunkle, Connolly,*** *Using Five Key Strategies for Effective Formative Assessment to Promote Formative Assessment Strategies in Schools*	**Session 228** Strand 2, Elementary (K-5) ***Waltrup, Horne,*** *Imagine, Innovate, and Inquire in the Elementary Mathematics Classroom with Tools and Technology*	**Session 229** Strand 1, Secondary (6-12) ***Seitz, Pugalee, Norris, Schrock,*** *Great Tasks Create Opportunities for Great Practices: 6-12 Students Engaged in Problem Solving*	**Session 230** Strand 4, Middle (6-8) ***Lara-Meloy, Stevens, Knudsen,*** *Learning from Students' Experience: How to Teach for Mathematical Argumentation*
11:15-12:15	**Session 244** Strand 1, General ***Seda, Smith,*** *Walking to Remember: Using Learning Walks to Build School Leaders' Capacity to Support the Mathematical Practices*	**Session 245** Strand 2, General ***Eliason, Buffington, Shaw,*** *Improving Early Mathematics Learning & Teaching in iPad-Infused Classrooms: A Research and Practice Collaboration*	**Session 246** Strand 2, Middle (6-8) ***Confrey,*** *Personalized Learning Meets Classroom Discourse: A Digital Solution to Documenting Progress in CCSS-M*	**Session 247** Strand 3, General ***Ebby, Petit,*** *Learning Trajectories: A Researched-Based Lens for Enhancing Formative Assessment*	**Session 248** Strand 3, Secondary (6-12) ***Riser, Reitemeyer, Corrozi, McCarthy,*** *Designing Effective Collaborations Around Learning (Decal): Amplifying Teachers' Informative Assessment Capacity*	**Session 249** Strand 1, General ***Silver, Hulbert, Steele, Devine, Levi, Adams,*** *Curriculum Panel*

12:30-2:00: Session 256: Luncheon (ticket required), Sponsored by *Texas Instruments*, Exhibit Hall B1 NW

2:15-3:15	**Session 263** Strand 1, General ***Schuhl,*** *When Content Isn't Enough ... Strategies to Help Students Really Learn Mathematics*	**Session 264** Strand 4, Elementary (K-5) ***Andrews,*** *Coaching with Technology: Using Digital Media to Reach More Teachers*	**Session 265** Strand 3, General ***Cole, Liner,*** *Smarter Balanced*	**Session 266** Strand 4, Elementary (K-5) ***Parsons, Maxwell,*** *Cameras in the Classroom: Designing Effective Collaboration around Learning*	**Session 267** Strand 2, Elementary (K-5) ***Bryant, Porter, Zimolzak,*** *Supporting Effective Technology Usage and Integration to Enhance Engagement and Growth in Mathematics Learning*	**Session 268** Strand 1, Secondary (6-12) ***Robertson,*** *Teaching Differientiated Instruction by Example*
3:30-4:15	**Session 275** ***Mitchell,*** *NCSM Past-President Caucus*	**Session 276** ***Barnes,*** *Eastern 2 Region - Regional Caucus*	**Session 277** ***Libfeld,*** *Eastern Region 1 - Regional Caucus*	**Session 278** ***Audrict,*** *Southern Region 1 - Regional Caucus*	**Session 279** ***Griffith,*** *Southern 2 Region - Regional Caucus*	**Session 280** ***Akwaji-Anderson,*** *Central Region 2 - Regional Caucus*
4:30-5:15						**Session 286** Strand 1, General ***Mills, Manon,*** *NCSM Business Meeting and State of the Organization Report*

5:30-7:00: Session 287: Reception (ticket required), Sponsored by *Discovery Education*, Level 3 Ballroom Lobby

TUESDAY SUMMARY

7:30-8:30: Session 200: Breakfast (ticket required), Exhibit Hall B1 NW, Sponsored by *Scholastic*

	152	153 A	153 B	153 C	157 B	154
8:45-9:45	**Session 213** Strand 4, Elementary (K-5) ***SanGiovanni, Sammons,*** *Parents as Partners*	**Session 214** Strand 1, General ***Brown, Trevino, Flint, Taylor,*** *Supporting the CCSS for Mathematical Practice with Social-Emotional Learning Competencies*	**Session 215** Strand 3, Middle (6-8) ***Fagan, Brodesky, Tobey,*** *PD Approaches to Using Student Work: Build Teacher Capacity to Assess Decimal Understanding and Target Instruction*	**Session 216** Strand 4, Elementary (K-5) ***Whittington, Leslie,*** *Shared Vision, Leadership, & Collaboration: Building the Capacity of School Leadership Teams to Effect Meaningful Change*	**Session 217** Strand 5, Elementary (K-5) ***Moore,*** *Teaching Number and Operations Effectively: Keys to Student Success*	**Session 218** Strand 4, General ***Mitchell, Steele,*** *Cultivating Your Personal Learning Network with Social Media*
10:00-11:00	**Session 231** Strand 4, Elementary (K-5) ***Gojak,*** *The Key to Connecting Whole Number and Fractions: Developing Operation Sense*	**Session 232** Strand 2, Intermediate (3-5) ***Turner, Susi,*** *Strip Models, Tape Diagrams, Bar Models, Oh My!*	**Session 233** Strand 4, Middle (6-8) ***Wallach, Johnson,*** *4 Essential Elements of RTI: From a Supervisor and Teacher's Perspective*	**Session 234** Strand 4, Primary (PK-2) ***Murawski, Fierle, Burgess,*** *Problem Solved, Problem Solved, We Solved the Problem and Everything is Awesome: Early Learning of Math through Media*	**Session 235** Strand 2, General ***Cipkowski,*** *Getting Ready for Rigorous NextGen Math Assessments: How to Get There from Here*	**Session 236** Strand 2, Secondary (6-12) ***Bales,*** *Build a Foundation for Math Acceleration with MATH 180 Course I (Grade 5 & Up)*
11:15-12:15	**Session 250** Strand 1, General ***Barlow, Lischka, Hartland, Willingham,*** *Project IMPACT2: Examining the Role of Mindset in Professional Development*	**Session 251** Strand 1, Secondary (6-12) ***Piecham, Gates,*** *Supporting Teachers in the Integration of the Standards for Mathematical Practice and Content in Algebra*	**Session 252** Strand 2, Intermediate (3-5) ***Heber, Susi,*** *Integrating Technology into a Mathematics Program so the Focus is on Shifting Teacher and Student Competencies*	**Session 253** Strand 1, Middle (6-8) ***Belcher, Van Vliet,*** *Developing the Standards for Mathematical Practice through Modeling*	**Session 254** Strand 2, General ***Speaker,*** *A Moderated Discussion: How Can Formative Assessment & Digital Learning Enhance Student Outcomes in the Common Core Era?*	**Session 255** Strand 1, Elementary (K-5) ***Berry,*** *How are Mathematical Standards Changing the Way You Teach?*

12:30-2:00: Session 256: Luncheon (ticket required), Sponsored by *Texas Instruments*, Exhibit Hall B1 NW

2:15-3:15	**Session 269** Strand 4, Secondary (6-12) ***Lancour, Riser, Maxwell, Gray,*** *Practicing the Practices: Supporting Mathematical Understanding Through the Use of Number Talks in Middle School & High*	**Session 270** Strand 1, Intermediate (3-5) ***Charney, Maxfield,*** *Standard for Mathematical Practices 1: Cultivating Perserverance in Students Who Struggle*	**Session 271** Strand 4, High School (9-12) ***Casey, Bambrick,*** *Probing Student Understanding and Assessing for Learning in a Technology-Rich Classroom*	**Session 272** Strand 1, High School (9-12) ***Hendrickson, Barson,*** *8 By 8: Connecting Teaching Practices and Student Mathematical Practices*	**Session 273** Strand 4, Middle (6-8) ***Wilson,*** *Looking for Meaning Before the Task*	**Session 274** Strand 2, General ***Reiners,*** *Helping Students Achieve Greatness by Incorporating Easy to Use, Affordable Casio Technology in the Classroom*
3:30-4:15	**Session 281** ***Zimmermann,*** *Central 1 - Regional Caucus*	**Session 282** ***Drickey,*** *Western Region 2 - Regional Caucus*	**Session 283** ***Toncheff,*** *Western Region 1 - Regional Caucus*	**Session 284** ***Matsumoto,*** *Canada - Regional Caucus* **Session 285** ***Mills,*** *International - Regional Caucus*		

5:30-7:00: Session 287: Reception (ticket required), Sponsored by *Discovery Education*, Level 3 Ballroom Lobby

TUESDAY SESSIONS BY STRAND

STRAND 1: LEADING INSTRUCTION TO LEVERAGE THE MATHEMATICS PRACTICES FOR INCREASED ACHIEVEMENT

SESSION	LOCATION	TIME
203	105	8:45-9:45
214	153 A	8:45-9:45
220	103	10:00-11:00
229	157 C	10:00-11:00
242	107 A	11:45-12:15
243	107 BC	11:45-12:15
244	156 A	11:45-12:15
249	151 AB	11:45-12:15
250	152	11:45-12:15
251	153 A	11:45-12:15
253	153 C	11:45-12:15
255	154	11:45-12:15
257	104 ABC	2:15-3:15
258	103	2:15-3:15
263	156 A	2:15-3:15
268	151 AB	2:15-3:15
270	153 A	2:15-3:15
272	153 C	2:15-3:15
286	151 AB	4:30-5:15

STRAND 2: EXAMINING THE OPPORTUNITIES AND CHALLENGES OF USING TECHNOLOGY TO SUPPORT TEACHING AND LEARNING MATHEMATICS

SESSION	LOCATION	TIME
209	156 C	8:45-9:45
222	106	10:00-11:00
228	157 A	10:00-11:00
232	153 A	10:00-11:00
235	157 A	10:00-11:00
236	154	10:00-11:00
245	156 B	11:15-12:15
246	156 C	11:15-12:15
252	153 B	11:15-12:15
254	157 B	11:15-12:15
267	157 C	2:15-3:15
274	154	2:15-3:15
275	156 A	3:30-4:15
276	156 B	3:30-4:15
277	156 C	3:30-4:15
278	157 A	3:30-4:15
279	157 C	3:30-4:15
280	151 AB	3:30-4:15
281	152	3:30-4:15
282	153 A	3:30-4:15
283	153 B	3:30-4:15
284	153 C	3:30-4:15
285	153 C	3:30-4:15

STRAND 3: ADVANCING FORMATIVE ASSESSMENT AS AN INTEGRAL TOOL FOR UNDERSTANDING STUDENT THINKING AND GUIDING INSTRUCTIONMATHEMATICS

SESSION	LOCATION	TIME
204	106	8:45-9:45
215	153 B	8:45-9:45
221	105	10:00-11:00
223	107 A	10:00-11:00
227	156 C	10:00-11:00
241	106	11:15-12:15
247	157 A	11:15-12:15
248	157 C	11:15-12:15
265	156 C	2:15-3:15

STRAND 4: EXPLORING STRATEGIES AND TOOLS FOR MATHEMATICS LEADERS AND COACHES TO SUPPORT MATHEMATICS LEARNING

SESSION	LOCATION	TIME
205	107 A	8:45-9:45
206	107 BC	8:45-9:45
207	156 A	8:45-9:45
210	157 A	8:45-9:45
213	152	8:45-9:45
216	153 C	8:45-9:45
218	154	8:45-9:45
219	104 ABC	10:00-11:00
224	107 BC	10:00-11:00
226	156 B	10:00-11:00
230	151 AB	10:00-11:00
231	152	10:00-11:00
233	153 B	10:00-11:00
234	153 C	10:00-11:00
260	106	2:15-3:15
261	107 A	2:15-3:15
262	107 BC	2:15-3:15
264	156 B	2:15-3:15
266	157 A	2:15-3:15
269	152	2:15-3:15
271	153 B	2:15-3:15
273	157 B	2:15-3:15

STRAND 5: SHIFTING PRACTICES TO EFFECTIVELY IMPLEMENT THE COMMON CORE STATE STANDARDS: EQUITY FOR ALL LEARNERS WITH FOCUS, RIGOR, AND DEPTH

SESSION	LOCATION	TIME
201	104 ABC	8:45-9:45
202	103	8:45-9:45
208	156 B	8:45-9:45
211	157 C	8:45-9:45
212	151 AB	8:45-9:45
225	156 A	10:00-11:00
238	104 ABC	11:15-12:15
239	103	11:15-12:15
240	105	11:15-12:15
259	105	2:15-3:15

TUESDAY BREAKFAST

7:30 AM - 8:30 AM
TICKET REQUIRED

SESSION 200
STRAND 2

EXHIBIT HALL B1 NW
GENERAL

An Equation That Works for Math Education

David Dockterman, Harvard/Faculty; Scholastic/Chief Architect, Learning Sciences, Watertown, MA

We can't keep doing the same thing and expect different results. The current equation for mathematics instruction is leaving too many students behind. Come learn about a new one: T(C + M) = S

Dr. David Dockterman is a nationally recognized pioneer in the development and implementation of technology for classroom instruction. A former social studies teacher, David joined Tom Snyder Productions in 1982 while earning his Ed.D. from the Harvard Graduate School of Education. At Tom Snyder, and later at Scholastic, David has designed several award-winning computer programs including Science Court and The Great Ocean Rescue. Most recently, Dr. Dockterman served as a key advisor for the development of MATH 180, a comprehensive system that integrates curriculum, assessment, professional learning opportunities, and family and community engagement tools to ensure mathematical success. David is also a Lecturer on Education at the Harvard Graduate School of Education, where his courses in educational technology and instructional design draw students from around the world.

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SCHOLASTIC

VISIT US AT BOOTH #403

8:45 - 9:45 AM

MAJOR PRESENTATION

SESSION 201 **104 ABC**
STRAND 5 **GENERAL**

Overcoming Obstacles to Make Mathematics Work for All!

Matt Larson, Lincoln Public Schools, Lincoln, NE

Presider: **Mona Toncheff**, NCSM Regional Director

New content standards may improve overall student achievement, but are unlikely to reduce existing learning differentials. In order to raise the achievement of all students and simultaneously close learning differentials, your leadership efforts must simultaneously address six program shifts as well overcome persistent obstacles that have stood in the way of making mathematics work for all students. This session will address specific actions you can take to overcome these obstacles, implement highly effective mathematics programs, focus your efforts, and ensure that mathematics works for all students!

Dr. Matt Larson is the K-12 mathematics curriculum specialist for the Lincoln Public Schools in Lincoln, NE. He is a member of the IES What Works Clearing House panel on Improving Algebra Skills. He is the author of numerous professional books, including: Administrator's Guide: Interpreting the Common Core State Standards to Improve Mathematics Education, and a co-author of the Common Core Mathematics in a PLC at WorkTM series, the Beyond the Common Core: A Handbook for Mathematics in a PLC at Work series, K-12 mathematics programs, and he is a member of the writing team for Principles to Actions: Ensuring Mathematical Success for All. Larson has taught mathematics at the secondary and college levels and has held an appointment as an honorary visiting associate professor at Teachers College, Columbia University. He has served on the Board of Directors for the National Council of Teachers of Mathematics and has been elected to serve as NCTM president 2016-2018 past chair of NCTM's Research Committee.

SESSION 202 **103**
STRAND 5 **SECONDARY (6-12)**

"College Prep" Mathematics Courses: Effectively Transitioning "Non-ready" Students From High School to College

Many districts are planning 4th year courses to ensure their graduates are "college ready." In this session, participants will explore a syllabus and sample materials for a course combining elements of quantitative reasoning and algebraic modeling-informed by new state standards and the emergence of multiple college mathematics pathways.

Kathi Cook, Charles A. Dana Center, Austin, TX

Ingrid Ristroph, Charles A. Dana Center, Austin, TX

SESSION 203 **105**
STRAND 1 **ELEMENTARY (K - 5)**

Professional Development that Supports Teachers' Use of Learning Trajectories

This session focuses on developing K-5 teachers' understanding of research-based student learning trajectories and their ability to use this understanding in their teaching. Participants will examine professional development materials that engage teachers in context-sensitive, practice-based professional learning experiences.

Timothy Boerst, University of Michigan, Ann Arbor, MI

Kara Suzuka, University of Michigan, Ann Arbor, MI

Douglas Van Dine, University of Denver, Denver, CO

SESSION 204 **106**
STRAND 3 **GENERAL**

Supporting Elementary and Secondary Mathematics Teachers' Formative Assessment Practices

This presentation is based on a professional development model that supports teachers' formative assessment practices. We will provide examples of a range of high-level practices, share data on the types of practices teachers need help implementing, and engage participants in brainstorming strategies that could help support teachers.

Joanne Philhower, Michigan State University, East Lansing, MI

Durrell Jones, Michigan State University, East Lansing, MI

Henry Kepner, NCSM Past President 1991-93, Milwaukee, WI

8:45 - 9:45 AM CONT...

SESSION 205 **107 A**
STRAND 4 **GENERAL**

What Does the Research Say About Mathematics Coaching? An Update

In this session you will be engaged in exploring an overview of the research on mathematics coaching and the implications for mathematics coaching programs. We will look at what the research says about -a) changing instructional practice; -b) improving student achievement; and -c) identifying the roles and responsibilities of coaches.

Maggie McGatha, University of Louisville, Louisville, KY

SPOTLIGHT SPEAKER

SESSION 206 **107 BC**
STRAND 4 **GENERAL**

It's TIME – Beyond Great Standards: Important Steps in Taking Leadership for Equity and Social Justice

Linda Fulmore, Independent Consultant, Cave Creek, AZ
Presider: **Denise Brady**, NCSM Fall Leadership Director

What does it mean to take leadership for social justice? It's TIME's vision of social justice requires students to be college or, career-ready and view mathematics as a powerful tool to think critically about issues facing society. This session will outline important planning and strategic steps to infuse social justice into a mathematics curriculum.

SESSION 207 **156 A**
STRAND 4 **GENERAL**

Building and Maintaining a K-12 System of Quality Mathematics Instruction from a District and Classroom Perspective

Building a system of strong mathematics instruction ensures quality teaching and learning for years to come. Learn from the experience of two mathematics leaders, from the district and classroom perspectives, about scaffolding systemic design and professional development to build strength in mathematics instruction at all levels.

Kathleen Rieke, Fayette County School Corporation, Connersville, IN

Sherry Lane, Quitman School District, Quitman, AR

SESSION 208 **156 B**
STRAND 5 **SECONDARY (6-12)**

Getting to the Heart of Equity with Rigorous Tasks and Instruction that Supports a Growth Mindset

Math is, and has always been, a creative endeavor-except in school. In school, we've managed to turn math into a rote, boring chore. For centuries, mathematics was the result of man's curiosity about the world and his desire to understand and describe it. Join us as we consider good tasks that reignite curiosity and the instruction they require.

Lisa Bush, Math Solutions, Sausalito, CA

Michael Gould, Math Solutions, Sausalito, CA

SESSION 209 **156 C**
STRAND 2 **SECONDARY (6-12)**

Using Digital Open-Source Education Resources in the Secondary Mathematics Classroom

There are many digital education resources available, but how do you know which ones are good for supporting high-quality mathematics instruction? Learn how to help your teachers use open-source digital education resources as they curate powerful learning experiences for their own students.

Paul Gray, The University of Texas at Austin, Austin, TX

SESSION 210 **157 A**
STRAND 4 **ELEMENTARY (K - 5)**

Moving a School Through Number Talks: Examining School Structures and Improving Mathematical Classroom Discourse

Experience a school leadership team's journey in creating a content-focused coaching model around Number Talks and classroom discourse. The team will share how they constructed supportive school structures,designed appropriate PD, established a collaborative school culture, and utilized Professional Learning Communities to increase student achievement.

Kristin Gray, Cape Henlopen School District, Lewes, DE

Nancy Thornburg, Cape Henlopen School District, Lewes, DE

Jennifer Nauman, Cape Henlopen School District, Lewes, DE

Jennifer Leach, Cape Henlopen School District, Lewes, DE

Andrea Hutchison, Cape Henlopen School District, Milton, DE

8:45 - 9:45 AM CONT...

SESSION 211 **157 C**
STRAND 5 **INTERMEDIATE (3 - 5)**

Success! Collaborative, Innovative Problem Solving Aligned to the Mathematical Practices

In this interactive session, leaders explore a student-centered paradigm that embraces complex problem solving through productive perseverance. Through the lens of the Mathematical Practices, we investigate and evaluate a process in which problems are thoroughly understood and entry points identified prior to solving. Student samples are shared.

Robyn Silbey, Robyn Silbey Professional Development, Gaithersburg, MD

MAJOR PRESENTATION

SESSION 212 **151 AB**
STRAND 5 **GENERAL**

Kay Gilliland Equity Lecture
Ensuring That College and Career Readiness Standards Lead to College and Career Readiness

Uri Treisman, Charles A. Dana Center at The University of Texas at Austin, Austin, TX

Presider: **Nanette Seago**, NCSM Awards Chair

Unlike most high-performing countries in the world, our country has bet on standards, historically weak policy instruments, to drive improvements in mathematics teaching and learning. How can we, as individual teachers and as a community of teachers, ensure that our new state standards lead to dramatic improvements in mathematics learning and that they reduce long-standing opportunity gaps? The talk will present a dispassionate analysis of the realities of achievement gaps. I will then examine the untapped sources of potential energy in our school systems and communities that can be brought to bear on creating a stronger and fairer system of mathematics education. Be prepared: There will be a call to action! Homework will be assigned.

Philip "Uri" Treisman is professor of mathematics and of public affairs at The University of Texas at Austin, where he is the founder and director of the University's Charles A. Dana Center. He is a senior advisor to the Aspen Institute's Urban Superintendents' Network and serves on the boards of the New Teacher Project, Education Resource Strategies, The Math Teachers' Circle, and the Center for Community College Student Engagement. He recently served on the STEM working group of the President's Council of Advisors on Science and Technology and on the Carnegie Corporation--Institute for Advanced Study Commission on Mathematics and Science Education. He served on the AACC 21st -Century Commission on the Future of Community Colleges and serves on the AACC Implementation Team. Uri serves as a senior advisor to the trustees of the Noyce Foundation and regularly advises the directors of family foundations interested in supporting educational improvement. He served as the Vice Chair of the TX Commission on Volunteerism under two governors and, for nine years, as the president of the board of COMAP. In 2013 he gave the Iris M Carl Equity Address at NCTM's annual meeting and a plenary address at the annual meeting of the Society for Research on Child Development on advances in the psychological sciences and their applications to education. Uri was named a MacArthur Fellow (1992-1997) for his work on nurturing minority student high achievement in college mathematics and 2006 Scientist of the Year by the Harvard Foundation of Harvard University for his outstanding contributions to mathematics.

8:45 - 9:45 AM CONT...

SESSION 213 **152**
STRAND 4 **ELEMENTARY (K - 5)**

Parents as Partners

Parents are critical for our students' success in mathematics. In this time of change, many parents are concerned about the approaches to teaching mathematics. In this session, participants will discuss and address parents' most pressing questions. This session will lift up tools and resources to support teachers, leaders, and districts.

John SanGiovanni, Howard County Public School System, Ellicott City, MD

Kay Sammons, Howard County Public School System, Ellicott City, MD

SESSION 214 **153 A**
STRAND 1 **GENERAL**

Supporting the CCSS for Mathematical Practice with Social-Emotional Learning Competencies

Explore new tools created by the Dana Center and the Collaborative for Academic Social and Emotional Learning that translate research in practice to assess and promote students' SEL competencies and the SMP. Clarify key takeaways from the overwhelming number of articles and books promoting growth mindset, grit, character, and non-cognitive factors.

Lisa Brown, Charles A. Dana Center at The University of Texas at Austin, Austin, TX

Emma Trevino, SFUSD Division of Curriculum and Instruction, Hayward, CA

Jodi Flint, Charles A. Dana Center at The University of Texas at Austin, Austin, TX

Jeremy Taylor, CASEL: Collaborative for Academic, Social, and Emotional Learning, Chicago, IL

SESSION 215 **153 B**
STRAND 3 **MIDDLE (6 - 8)**

PD Approaches to Using Student Work: Build Teacher Capacity to Assess Decimal Understanding and Target Instruction

Teaching struggling learners requires a deep and flexible math understanding and diagnostic approaches to identify students' strengths/difficulties and target instruction. Experience PD activities that use student work and mathematics interviews to build teachers' knowledge of decimals (CCSS), formative assessment probes, and instructional strategies.

Emily Fagan, Education Development Center, Waltham, MA

Amy Brodesky, Education Development Center, Waltham, MA

Cheryl Tobey, Education Development Center, Randolph, ME

SESSION 216 **153 C**
STRAND 4 **ELEMENTARY (K - 5)**

Shared Vision, Leadership, & Collaboration: Building the Capacity of School Leadership Teams to Effect Meaningful Change

How do schools develop the capacity to support and sustain high-quality mathematics instruction as called for in the CCSS? Participants will learn how our Principal and Teacher Leadership Institute has helped school-based mathematics leadership teams roll out and support the CCSS-M to promote a shared vision for high-quality mathematics instruction.

Alison Whittington, University of Chicago, CEMSE, Chicago, IL

Debbie Leslie, The University of Chicago, Chicago, IL

SPONSOR SHOWCASE

SESSION 217 **157 B**
STRAND 5 **ELEMENTARY (K - 5)**

Teaching Number and Operations Effectively: Keys to Student Success

Successful students understand the meaning of operations, use them appropriately to solve problems, and are fluent with basic facts and algorithms. Come learn about Hands-On Standards: Number & Operations, a new resource to support K-5 teachers in this essential area. See new games, new manipulatives, and formative assessment tasks in this session.

Sara Moore, ETA hand2mind, Vernon Hills, IL

TECHNOLOGY SHOWCASE

SESSION 218 **154**
STRAND 4 **GENERAL**

Cultivating Your Personal Learning Network with Social Media

Leading in isolation is a thing of the past when we become connected educators. Do you want to learn more about personal learning networks and what they can do for you? This session is designed to provide support and time to begin building your personal learning network in order to harness the power of social media.

Mary Mitchell, Math Solutions, Sausalito, CA

Genni Steele, Math Solutions, Sausalito, CA

10:00 AM - 11:00 AM

MAJOR PRESENTATION

SESSION 219 **104 ABC**
STRAND 4 **ELEMENTARY (K - 5)**

Developing a School-Wide Culture of Collective Risk Taking and Learning: It's Not Easy But Why It's Worth It

Elham Kazemi, University of Washington, Seattle, WA

Presider: **Beverly Kimes**, NCSM 2nd Vice President

What does it really take to organize a school for both teacher and student learning? In poverty-impacted communities, schools are under enormous pressure to show results in student learning. Developing a culture of risk taking and collaboration can be difficult in settings where classroom observation is more synonymous with evaluation than with collective learning. I will share practices employed by a strong coach-principal team to create workplace routines and interactions that result in vibrant and meaningful learning for students, teachers, and teacher educators.

Elham Kazemi is professor of mathematics education and associate dean for professional learning at the University of Washington. Eliciting, responding to, and advancing children's thinking in mathematics lie at the core of her work with teachers and leaders. She studies how schools can be organized for teacher and student learning. This work is informed by equity-oriented research on organizational learning, children's mathematical thinking, and classroom practice. Her recent book, Intentional Talk, co-authored with Allison Hintz, focuses on leading productive discussions in mathematics.

SESSION 220 **103**
STRAND 1 **SECONDARY (6-12)**

Constructing Viable Arguments and Critiquing the Reasoning of Others: Where to Start?

Participants will construct and evaluate arguments for the Sticky Gum Problem, a reasoning and proof activity for secondary and collegiate students. We will work together to develop criteria for what counts as proof based on the evaluations and discuss how a similar activity was implemented to lead productive proof discourse with future teachers.

Justin Boyle, University of Alabama, Tuscaloosa, AL

Sarah Bleiler, Middle Tennessee State University, Murfreesboro, TN

Sean Yee, University of South Carolina, Columbia, SC

Winnie Ko, Indiana State University, Terre Haute, IN

SESSION 221 **105**
STRAND 3 **MIDDLE (6 - 8)**

Integrating Rich Tasks, the Mathematical Practices, and Classroom Discourse to Enhance Planning, Teaching, and Assessing

The practices for orchestrating productive mathematical discussion can guide all aspects of teaching including formative assessment. Using student work and classroom videos, participants will analyze how the teacher integrates these practices with rich mathematical tasks and the Mathematical Practices to produce deep mathematical understandings.

Elizabeth Phillips, Michigan State University, East Lansing, MI

Yvonne Grant, Portland Middle School, Portland, MI

SESSION 222 **106**
STRAND 2 **GENERAL**

Affordances of an Interactive, Web-Based Visual Representation of a Dynamic Object

Examining affordances of an interactive, web-based visual representation of a dynamic object, helps teachers reflect on how technology affords and constrains student actions and thoughts. Participants will look at dynamic objects to determine their affordances. (Moyer-Packenham & Westenskow, 2013)

Beth Bos, Texas State University, San Marcos, TX

SESSION 223 **107 A**
STRAND 3 **GENERAL**

PARCC Update

This session will provide information about the recent PBA and Diagnostic Field Test administrations, the upcoming EOY administration, the standard setting process, and other information about the PARCC Mathematics Summative and Non-Summative Assessments.

Jim Mirabelli, PARCC, Inc., Plainfield , IN

10:00 AM - 11:00 AM CONT...

SPOTLIGHT SPEAKER

SESSION 224 **107 BC**
STRAND 4 **ELEMENTARY (K - 5)**

Mathematics Specialists/Instructional Leaders - Considering Professional Development Using Flipped PD: You Can Do This!

Francis (Skip) Fennell, McDaniel College, Westminster, MD

Beth Kobett, Stevenson University, Stevenson, MD

Kay Sammons, Howard County Public Schools, Ellicott City, MD

Jon Wray, Howard County Public Schools, Ellicott City, MD

Presider: **John Staley**, NCSM President Elect

This session will engage participants in flipped professional development using a model which respects and focuses on teacher choice, levels of expectation, and matches the intent of the professional development mathematical content knowledge, formative assessment, the Standards for Mathematical Practice, or disposition-related topics.

SESSION 225 **156 A**
STRAND 5 **ELEMENTARY (K - 5)**

Supporting Teacher Teams in Meeting the Needs of All Students in Inclusive Classrooms: Involving All Educators

Special education and general education teacher teams participated in professional development-focused strategies for collaboration and co-teaching focused, rigorous mathematics. The teams used and refined new skills in a summer inclusive setting. Come see video of the experience, explore resources used to support collaboration, and share ideas.

Megan Burton, Auburn University, Auburn, AL

SESSION 226 **156 B**
STRAND 4 **INTERMEDIATE (3 - 5)**

Three Concrete Ways Coaches Can Support Teachers

We will share strategies math coaches can use to 1) construct and co-teach coherent, conceptual mathematics lessons; 2) turn one-dimensional classrooms into multi-dimensional problem-solving centers; and 3) create high expectations for students and schools with a unique School Math Conference modeled after a professional mathematics meeting.

James Matthews, Siena College, Loudonville, NY

Judith Matthews, Chatham Central Schools, Chatham, NY

SESSION 227 **156 C**
STRAND 3 **GENERAL**

Using Five Key Strategies for Effective Formative Assessment to Promote Formative Assessment Strategies in Schools

The NCTM Research Brief Five "Key Strategies" for Effective Formative Assessment provides a comprehensive framework for formative assessment. This resource was the focus of our year-long work with teacher leaders and their work with colleagues in their buildings. What did we do, what did we learn, and what are implications for similar efforts?

Anurupa Ganguly, Boston Public Schools, Boston, MA

Linda Davenport, Boston Public Schools, Boston, MA

Connie Henry, Boston Public Schools, Boston, MA

Peter Thorlichen, Boston Public Schools, Boston, MA

Janamarie Sunkle, Boston Public Schools, Boston, MA

Christy Connolly, Boston Public Schools, Boston, MA

SESSION 228 **157 A**
STRAND 2 **ELEMENTARY (K - 5)**

Imagine, Innovate, and Inquire in the Elementary Mathematics Classroom with Tools and Technology

Experience mathematical learning enhanced with tools and technology. Engage in dynamic activities that support the integration of digital learning experiences. Transformative ideas you can apply in your district to assist students in visualizing and understanding mathematical concepts and support students' mathematical reasoning and problem solving.

Angela Waltrup, Frederick County, Maryland Public Schools, Frederick, MD

Dr. Christopher Horne, Frederick County, Maryland Public Schools, Frederick, MD

SESSION 229 **157 C**
STRAND 1 **SECONDARY (6-12)**

Great Tasks Create Opportunities for Great Practices: 6-12 Students Engaged in Problem Solving

NCSM's Great Tasks will be used to illustrate how secondary classrooms and teacher professional development(PD)can be enhanced by carefully presented problems. Problems and discussions that help to clarify the practices and address middle and high school levels will be used along with a plan for collaborative PD where teachers create and adapt more tasks.

Richard Seitz, Helena High School, Helena, MT

David Pugalee, UNC Charlotte | Center for Science, Technology, Engineering, and Mathematics (STEM) Education, Charlotte, NC

Kit Norris, Consultant, Southborough, MA

Connie Schrock, Emporia State University, Emporia, KS

10:00 AM - 11:00 AM CONT...

SESSION 230 **151 AB**
STRAND 4 **MIDDLE (6 - 8)**

Learning from Students' Experience: How to Teach for Mathematical Argumentation

Middle school students need explicit support to participate in mathematical argumentation. How can teachers support students without taking over the arguments themselves? Leaders will analyze video cases to uncover how teachers in diverse classrooms work effectively with beginning arguers. Includes time for planning how to use these insights.

Teresa Lara-Meloy, SRI International, Menlo Park, CA

Harriette Stevens, Consultant & Mathematics Educator, San Francisco, CA

Jennifer Knudsen, SRI International, Menlo Park, CA

SESSION 231 **152**
STRAND 4 **ELEMENTARY (K - 5)**

The Key to Connecting Whole Number and Fractions: Developing Operation Sense

The CCSS calls for conceptual understanding of operations with whole numbers and fractions in grades 3-5. This session will focus on strategies for coaches and leaders to develop deeper teacher understanding of the four basic operations and the connections between operations with whole numbers and fractions leading to student understanding.

Linda Gojak, NCTM/John Carroll University, Reston, VA

SESSION 232 **153 A**
STRAND 2 **INTERMEDIATE (3 - 5)**

Strip Models, Tape Diagrams, Bar Models, Oh My!

These visual components sit at the intersection of the CCSS, Singapore Math, and now technology! Learn why visual models for word problems are so powerful, try some problems from the simple to the complex, and investigate web-based programs and iPad apps that will help anyone incorporate this effective strategy into their classrooms.

Cassandra Turner, Cassandra Turner & Associates, Fort Collins, CO

Lauri Susi, Conceptua Math, Petaluma, CA

SESSION 233 **153 B**
STRAND 4 **MIDDLE (6 - 8)**

4 Essential Elements of RTI: From a Supervisor and Teacher's Perspective

Walk through the four essential elements of successful middle school RTI programs from the supervisor and teacher's perspective. Administer pre-tests, make decisions, engage in explicit instruction using manipulatives with the C-R-A process and conclude with progress monitoring. All activities emphasize CCSS Math Practice Standards for fractions.

Kenya Wallach, Stafford County Public Schools / Math Teachers Press, Inc., Minneapolis, MN

Amy Johnson, Math Teachers Press, Inc., Minneapolis, MN

SESSION 234 **153 C**
STRAND 4 **PRIMARY (PK - 2)**

Problem Solved, Problem Solved, We Solved the Problem and Everything is Awesome: Early Learning of Math through Media

Help early childhood educators deepen content knowledge, increase understanding of how children learn, and boost confidence in exploring mathematics with preschoolers and their parents! The session uses Peg + Cat, as well as other resources in activities from an academy for early childhood educators. At the conclusion, we'll all say "Problem solved!"

Corinne Murawski, Allegheny Intermediate Unit, Homestead, PA

Michael Fierle, Math & Science Collaborative, Pittsburgh, PA

Michele Burgess, Allegheny Intermediate Unit, Homestead, PA

SPONSOR SHOWCASE

SESSION 235 **157 B**
STRAND 2 **GENERAL**

Getting Ready for Rigorous NextGen Math Assessments: How to Get There from Here

As assessments become computer-based and more rigorous, how can we improve our effectiveness, nurture a love of mathematics, and also prepare students for next generation assessments?

Peter Cipkowski, Think Through Math, Pittsburgh, PA

10:00 AM - 11:00 AM CONT...

TECHNOLOGY SHOWCASE

SESSION 236 **154**
STRAND 2 **SECONDARY (6-12)**

Build a Foundation for Math Acceleration with MATH 180 Course I (Grade 5 & up)

With personalized instruction and adaptive practice, MATH 180's software helps students meet rigorous mathematical standards. Take a walk in your students' shoes and experience MATH 180 Course I—the blending learning solution that rebuilds the foundations of arithmetic and numbers, enabling students to make connections while learning to think algebraically.

Janet Bales, Scholastic , New York , NY

HOT TOPICS CONVERSATION CAFÉ

10:15 AM - 11:00 AM

SESSION 237 **EXHIBIT HALL B1 NE GENERAL**

TABLE 1 **Matt Larson**, Lincoln Public Schools, Lincoln, NE ***Structuring K-12 Interventions to Support the Access and Equity Principle***

TABLE 2 **Linda Curtis-Bey**, NYC Department of Education, New York, NY ***Building District Leadership Capacity***

TABLE 3 **Karen Fuson**, Northwestern University, Fallbrook, IL ***Balancing understanding and fluency at Grades K to 6***

TABLE 4 **Margaret Honey**, New York Hall of Science, Queens, NY ***Can Learning be Irresistible?***

11:15 AM - 12:15 PM

MAJOR PRESENTATION

SESSION 238 **104 ABC**
STRAND 5 **ELEMENTARY (K - 5)**

Teaching K-5 Students Who Struggle in Mathematics

Karen Karp, University of Louisville, Louisville, KY

Presider: **Linda Griffith**, NCSM Regional Director

This session will focus on the effective teaching of mathematics through understanding how students learn, how to promote that learning by teaching through problem solving, and how to plan for and assess that learning. Rather than "telling" students how to do mathematics, this session will help you think about ways to build instruction that engages students in "doing math." There will be an emphasis on teaching mathematics through a multi-tiered system of support such as Response to Intervention.

Dr. Karen Karp is a professor of mathematics education at the University of Louisville. Karen is co-author of fourteen books including Elementary and Middle School Mathematics: Teaching Developmentally, Student Centered Mathematics, Developing Essential Understanding of Addition and Subtraction for Teaching Mathematics, Inspiring Girls to Think Mathematically and numerous book chapters and articles. She is a former member of the Board of Directors of NCTM and former president of the Association of Mathematics Teacher Educators (AMTE). She continues to work in classrooms across the state of Kentucky to support teachers of students with disabilities in their mathematics instruction. Karen is a recipient of the U of L President's Distinguished Teaching Award and the President's Distinguished Service Award for a Career of Service.

SESSION 239 **103**
STRAND 5 **MIDDLE (6 - 8)**

Shifting Opportunities to Teach and Learn In Common Core "Aligned" Textbooks: Implications for Depth and Equity

Analyses of new middle grades textbooks across Ratio & Proportion and Geometry domains of the CCSS will be reported. Data will be shared related to mathematical content, types of representations, and comparisons. We will discuss how access to mathematics based on curriculum use poses a potential equity gap in implementing the CCSS.

Travis Olson, University of Nevada, Las Vegas, Las Vegas, NV

Dawn Teuscher, Brigham Young University, Provo, UT

Shannon Dingman, University of Arkansas, Fayetteville, AR

11:15 AM - 12:15 PM CONT...

SESSION 240 **105**
STRAND 5 **HIGH SCHOOL (9 - 12)**

Sense-Making, the Ultimate Intervention

A common but misguided intervention for struggling students is to remove the mathematics from a context and focus on procedures. This practice prevents students from using their own common sense and sense-making abilities to do mathematics. Struggling students need a contextual framework the most. Student work and video will support this assertion.

Janet Sutorius, Mathematics Vision Project, Murray, UT

SESSION 241 **106**
STRAND 3 **INTERMEDIATE (3 - 5)**

Something to Talk About: Assessing Student Reasoning and Thinking

The CCSS Mathematical Practices require students to make sense of problems, reason abstractly and quantitatively, and construct viable arguments and critique the reasoning of others. At the heart of each of these practices is communication. Mathematics leaders and coaches will learn how to support teachers in assessing students' math talk.

Le Vada Gray, Math Solutions, Sausalito, CA

Genni Steele, Math Solutions, Sausalito, CA

SESSION 242 **107 A**
STRAND 1 **GENERAL**

Sharing Lenses, Catalyzing Reflection: Coaches and Principals Seeing the SMP in Action, Together

To help teachers' implementation, leaders must first make sense of the SMP themselves. Workshops can help, but only go so far. Learn how coaches and administrators in over 30 districts shared their "lenses" on live lessons to make the SMP tangible and explored ways to promote teachers' inquiry. We'll share our successes, surprises, and challenges.

Sendhil Revuluri, University of Illinois at Chicago, Chicago, IL

Mary Jo Tavormina, University of Illinois at Chicago, Chicago, IL

SPOTLIGHT SPEAKER

SESSION 243 **107 BC**
STRAND 1 **ELEMENTARY (K - 5)**

Helping Teachers Integrate the Mathematical Practices into Classroom Instruction

Marilyn Burns, Math Solutions, Sausalito, CA

Presider: **Sharon Rendon**, NCSM Marketing Committee Chair

The Mathematical Practices are the heart of the Common Core and many teachers have concerns about how to "teach" and "assess" them. This session suggests ways to help teachers understand the role of the Mathematical Practices and make them an integral part of daily math instruction.

SESSION 244 **156 A**
STRAND 1 **GENERAL**

Walking to Remember: Using Learning Walks to Build School Leaders' Capacity to Support the Mathematical Practices

Participants will learn how a district used a learning walk process to collect district data and build the capacity of school leaders to know what student engagement in the Mathematical Practices look like in classrooms, and provide feedback to teachers on how they might increase student engagement of the Mathematical Practices.

Pamela Seda, Seda Educational Consulting, LLC, Decatur, GA

Linda Smith, Rockdale County Public Schools, Atlanta, GA

SESSION 245 **156 B**
STRAND 2 **GENERAL**

Improving Early Mathematics Learning & Teaching in iPad-Infused Classrooms: A Research and Practice Collaboration

This session will explore a model for improvement in which researchers and practitioners collaborate to identify and address persistent challenges related to early mathematics learning and teaching in iPad-infused, K-2 classrooms. Key strategies, learning, benefits, and challenges will be shared.

Amber Eliason, Auburn School Department, Auburn, ME

Pamela Buffington, Education Development Center, Gardiner, ME

Laura Shaw, Auburn School Department, Auburn, ME

11:15 AM - 12:15 PM CONT...

SESSION 246 **156 C**
STRAND 2 **MIDDLE (6-8)**

Personalized Learning Meets Classroom Discourse: A Digital Solution to Documenting Progress in CCSS-M

We recognize the positive effects of sharing and sequencing student work examples to build discourse and illustrate increasing sophistication of student thinking. Many digital environments assume all students should be treated the same, or everything should be individualized. The session demonstrates using a learning map to support a middle ground.

Jere Confrey, North Carolina State University, Durham, NC

SESSION 247 **157 A**
STRAND 3 **GENERAL**

Learning Trajectories: A Researched-Based Lens for Enhancing Formative Assessment

This session will focus on how to bring learning trajectories and formative assessment together to provide a research-based lens for teachers to understand student thinking, make "on time" instructional decisions, and provide actionable feedback to students.

Caroline Ebby, CPRE, University of Pennsylvania, Philadelphia, PA

Marjorie Petit, Marge Petit Consulting, MPC, Moretown, VT

SESSION 248 **157 C**
STRAND 3 **SECONDARY (6-12)**

Designing Effective Collaborations Around Learning (Decal): Amplifying Teachers' Informative Assessment Capacity

This session will support leaders in considering how the use of content-focused coaching videos and PLC rehearsals featuring problem-based lessons that are purposefully designed to promote productive struggle and attention to student thinking can amplify teachers' capacity to promote deeper learning outcomes in secondary mathematics classrooms.

Jamila Riser, Delaware Mathematics Coalition, Dover, DE

Michael Reitemeyer, Red Clay School District, Wilmington, DE

Robin Corrozi, Cape Henlopen High School, Lewes, DE

Janice McCarthy, Red Clay School District, Wilmington, DE

SESSION 249 **151 AB**
STRAND 1 **GENERAL**

Curriculum Panel

Formative assessment and other popular instructional frameworks, tools, and approaches are each typically presented as a set of stand-alone ideas to be understood and implemented by teachers. A recent working meeting, organized by a joint NCSM and AMTE formative assessment task force, asked experts from each of five theoretical frames to challenge this notion. Together they explored connections among CGI, RtI, Mathematical Tasks Framework, Classroom Discourse Tools, and Culturally Relevant Pedagogy. Join our panel of experts from this working meeting as they describe both the role that formative assessment plays in each frame and other connections that these approaches share.

Edward Silver, University of Michigan, Ann Arbor, MI

Beth Hulbert, Barre Supervisory School District, Barre, VT

Michael D. Steele, University of Wisconsin – Milwaukee, Milwaukee, WI

Geraldine Devine, Oakland Schools, Waterford Township, MI

Linda Levi, Teachers Development Group, Madison, WI

Thomasenia Adams, University of Florida, Gainesville, FL

SESSION 250 **152**
STRAND 1 **GENERAL**

Project IMPACT2: Examining the Role of Mindset in Professional Development

Project IMPACT2 provides professional development for elementary teachers. In this session, we will examine how teachers with different mindsets (i.e., growth or fixed) interacted within professional development activities and the impact on instructional practices. Discussion will focus on implications for professional development.

Angela Barlow, Middle Tennessee State University, Murfreesboro, TN

Alyson Lischka, Middle Tennessee State University, Murfreesboro, TN

Kristin Hartland, Middle Tennessee State University, Murfreesboro, TN

James Willingham, Middle Tennessee State University, Murfreesboro, TN

11:15 AM - 12:15 PM CONT...

SESSION 251 **153 A**
STRAND 1 **SECONDARY (6-12)**

Supporting Teachers in the Integration of the Standards for Mathematical Practice and Content in Algebra

As new CCSSM curricula present rigorous mathematical tasks to develop the Standards for Mathematical Practice (SMP) with students, helping teachers to use and enact materials as intended is critically important. Come and examine algebra tasks alongside classroom video and artifacts that illustrate the SMP in curriculum and classroom practice.

Mary Beth Piecham, Education Development Center, Inc., Waltham, MA

Miriam Gates, Education Development Center, Inc., Waltham, MA

SESSION 252 **153 B**
STRAND 2 **INTERMEDIATE (3 - 5)**

Integrating Technology into a Mathematics Program so the Focus is on Shifting Teacher and Student Competencies

The Standards for Mathematical Practice have redefined instructional practices. Greater access to technology can also redefine instruction when carefully planned and implemented. Learn how the Worcester County schools developed a framework that focused on integrating technology to improve the pedagogical skills of teachers and student learning.

Rosemary Heher, Worcester County Schools, Newark, MD

Lauri Susi, Conceptua Math, Petaluma, CA

SESSION 253 **153 C**
STRAND 1 **MIDDLE (6 - 8)**

Developing the Standards for Mathematical Practice through Modeling

Use of engaging, modeling-focused mathematical projects with student-centered modeling rubrics supports teachers and students in developing the Standards for Mathematical Practice. Based on "10 Fundamental Characteristics of Modeling" (Confrey, et al.), projects illustrate how mathematical modeling can be a conduit to the Standards for Mathematical Practice.

Michael Belcher, Amplify, Durham, NC

Jocelyn Van Vliet, Amplify, Durham, NC

SPONSOR SHOWCASE

SESSION 254 **157 B**
STRAND 2 **GENERAL**

A Moderated Discussion: How can Formative Assessment & Digital Learning Enhance Student Outcomes in the Common Core era?

Join a diverse panel of K-12 CCSS experts, curriculum authors, and mathematics supervisors for a moderated, interactive Q & A on best practices for leveraging formative assessment and digital technology to enhance student understanding of the mathematical content standards and the mathematical practice standards.

Pearson Speaker, Pearson, Upper Saddle River, NJ

TECHNOLOGY SHOWCASE

SESSION 255 **154**
STRAND 1 **ELEMENTARY (K - 5)**

How Are Mathematical Standards Changing the Way You Teach?

Teaching with Mathematical Practices helps students develop a mathematical mindset. ExploreLearning Gizmos are online simulations that are ideal for incorporating mathematical standards into the learning experience. Students use Gizmos to develop both the knowledge and capabilities that lead to long-term success in mathematics.

Pam Berry, Explore Learning, Charlottesville, VA

TUESDAY LUNCHEON

12:30 PM - 2:00 PM

TICKET REQUIRED

SESSION 256 **EXHIBIT HALL B1 NW**
STRAND 5 **GENERAL**

Tuesday Lunch: Embracing Our Role As Leaders

Jill Gough, Texas Instruments, Dallas, TX

In this session, we will look at how we can provide support and resources to help teachers present mathematics as a progression of ideas so that students can make meaningful connections to – and effectively use – mathematics beyond the classroom. The speaker will share her experiences in developing the community of learners in her school, using examples from the classroom to tell the story from a math leader's perspective.

Jill Gough is the Director of Teaching and Learning at the Trinity School in Atlanta, GA. With over 30 years of experience as a math educator and leader, including her role as a National T3 Instructor, Jill brings her expertise in developing teachers to become more effective in their practice. Amongst her many awards, Jill is a Presidential Awardee for Excellence in Math and Science Teaching and was recently named a Teacher of the Future by the National Association of Independent Schools.

Sponsored by Texas Instruments. TI's Education Technology business is a leader working with educators throughout the world in developing classroom technology, training programs and support materials that connect the classroom learning experience with real-world applications at every grade level.

Our mission is to improve achievement for all students by fostering quality instruction in mathematics and science education. 9th Annual Presentation of the Iris Carl Travel Grants Iris Carl was an international leader in mathematics education, an NCSM Past President, and a Glenn Gilbert Award recipient, who worked tirelessly to support other mathematics education leaders. NCSM honors her through the presentation of the NCSM Iris Carl Travel Grant. NCSM established the Iris Carl Mathematics Leadership Fund, within the NCSM Charitable Trust, which endows the Grant. As long as there are sufficient funds, NCSM will annually provide up to three Iris Carl Grant Awards for Travel to eligible NCSM members to attend the NCSM Annual Conference. The fund continues to grow through generous contributions. A special collection will be made during today's luncheon. Make your check out to NCSM Charitable Trust. Cash will be accepted and donors are encouraged to enclose contact information. NCSM will mail a thank you letter suitable for use in informing the IRS that no goods or services were provided in return for the contribution. The Iris Carl Travel Grant application and criteria can be found at mathedleadership.org. Applications are being accepted through December 1, 2015, for the 2016 Award.

8th Annual Presentation of the Iris Carl Travel Grants

Iris Carl was an international leader in mathematics education, an NCSM Past President, and a Glenn Gilbert Award recipient, who worked tirelessly to support other mathematics education leaders. NCSM honors her through the presentation of the NCSM Iris Carl Travel Grant.

NCSM established the Iris Carl Mathematics Leadership Fund, within the NCSM Charitable Trust, which endows the Grant. As long as there are sufficient funds, NCSM will annually provide up to three Iris Carl Grant Awards for Travel to eligible NCSM members to attend the NCSM Annual Conference.

The fund continues to grow through generous contributions. A special collection will be made during today's luncheon. Make your check out to NCSM Charitable Trust. Cash will be accepted and donors are encouraged to enclose contact information. NCSM will mail a thank you letter suitable for use in informing the IRS that no goods or services were provided in return for the contribution.

The Iris Carl Travel Grant application and criteria can be found at mathedleadership.org. Applications are being accepted through December 1, 2015, for the 2016 Award.

2015 Grant Recipients

Angela Mosier
Omaha, NE

Marci Ostmeyer
Columbus, NE

Shanti Stone
Jessup, MD

2:15 PM - 3:15 PM

MAJOR PRESENTATION

SESSION 257 **104 ABC**
STRAND 1 **ELEMENTARY (K - 5)**

Research-Based Learning Progressions in the K-6 CCSS and the Mathematical Practices

Karen Fuson, Northwestern University, Fallbrook, IL

Presider: **Linda Fulmore**, NCSM Position Papers Editor

The K-6 CCSS specify several research-based learning progressions. Some of these are within particular domains while another progression applies across many domains and describes ways in which the CCSS move from understanding to fluency. All of these support and elaborate the eight mathematical practices in the CCSS. These and their supports for the practices will be discussed. An overview way to summarize the mathematical practices will be described, and videos of the mathematical practices in action in the classroom will be shared. These overviews can help leaders help teachers to implement mathematical practices in ways that can increase student achievement.

Dr. Karen Fuson is Professor Emerita of Learning Sciences, School of Education and Social Policy, and of the Department of Psychology, Northwestern University. She has published over eighty research articles on mathematics teaching and learning. She was a member of the National Research Council's Mathematics Learning Study Committee that wrote Adding It Up and the Committee on Early Childhood Math that wrote Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity. She wrote the chapter on whole numbers for the NCTM Research Companion to the 2000 Standards and wrote the introductory chapter for the National Research Council's How Students Learn: Mathematics in the Classroom. Professor Fuson is a co-author on five of the NCTM grade-level books for teachers about the focal points (PK, K, G1, G2, G5). She worked on the Common Core State Standards-Math and on the learning progressions for these standards.

SESSION 258 **103**
STRAND 1 **SECONDARY (6-12)**

Making All Students Proficient in Making Sense of Problems and Preserving in Solving - It's a Team Effort!

The team will share how mathematics teachers, instructional coaches, building administration, and district leaders come together to create and implement an action plan to focus instruction and student learning on SMP #1 - Making sense of problems and persevering in solving them. Participants will engage in draft a sample rubric.

Stefanie Buckner, Buncombe County Schools, Asheville, NC

Karen McPherson, Buncombe County Schools, Asheville, NC

SESSION 259 **105**
STRAND 5 **HIGH SCHOOL (9 - 12)**

Supporting Algebra 1 Teachers' Implementation of the CCSS: A Research + Practice Partnership

How can collaborations between district leaders, researchers, teachers, and web engineers work to support Common Core-driven curriculum reform? In this session, we will share what we have learned from a multi-year co-design project to support the selection, enactment, and sharing of high-quality mathematical tasks for Algebra 1.

Raymond Johnson, School of Education, University of Colorado Boulder, Boulder, CO

Cathy Martin, Denver Public Schools, Denver, CO

Becky Sauer, Denver Public Schools, Denver, CO

SESSION 260 **106**
STRAND 4 **SECONDARY (6-12)**

High School Number Talks as Agents of Change in Classroom Culture

As teachers learn to foster mathematical conversations, they face their own uncertainty ("What do I do now?") and their students' uneasiness ("Why is she asking how we are thinking?"). In this session, we will discuss videos of preservice high school teachers learning to lead Number Talks and shifting the class culture - and how coaching helped.

Cathy Humphreys, Stanford University Graduate School of Education, Stanford, CA

2:15 PM - 3:15 PM CONT...

SESSION 261 **107 A**
STRAND 4 **HIGH SCHOOL (9 - 12)**

Occam's Razor: A Leadership Tool to Help Simplify, Cut to the Chase, Improve Student Learning, and Preserve Our Sanity

The message and methods for how to improve mathematics education have become too complicated. We as teachers are overwhelmed. We as leaders are overwhelmed. We must cut to the chase and simplify. It's time to get out Occam's razor! "Entities should not be multiplied unnecessarily." In this session we will discuss how, with examples.

Eric Hart, Grand View University, Des Moines, IA

SPOTLIGHT SPEAKER

SESSION 262 **107 BC**
STRAND 4 **MIDDLE (6 - 8)**

Insights on What I've Learned Coaching Teachers and Coaching Coaches

Steve Leinwand, American Institute for Research, Washington, DC

Presider: **Shawn Towle**, NCSM Web Editor

There is so much that I've learned about the non-negotiables and the nuances of coaching teachers of mathematics and mentoring math coaches. This session will examine some of the insights I've developed with a particular focus on videos of the all important coaching debriefing session after an observation.

SESSION 263 **156 A**
STRAND 1 **GENERAL**

When Content Isn't Enough…Strategies to Help Students Really Learn Mathematics

Explore ways to support teachers implementing the Standards for Mathematical Practice. How can student knowledge be deepened through inquiry and a variety of strategies to solve problems? Determine key elements of lesson design and investigate ways to assess student learning of the practices with the content standards at each grade level.

Sarah Schuhl, On Target Student Learning, Mathematics and Education Consultant, Gresham, OR

SESSION 264 **156 B**
STRAND 4 **ELEMENTARY (K - 5)**

Coaching with Technology: Using Digital Media to Reach More Teachers

Instructional coaches must find ways to support many teachers even as resources diminish. Learn how to use digital media to provide "just-in-time" individualized coaching support and build teachers' pedagogical content knowledge. The session will include video exemplars, testimonials, and demonstrations.

Delise Andrews, Lincoln Public Schools, Lincoln, NE

SESSION 265 **156 C**
STRAND 3 **GENERAL**

Smarter Balanced

Over the past several years, we have watched the national landscape change from mathematics assessments that were primarily multiple choice questions to assessments with a variety of item and task types. This presentation examines the purpose of different item types, and how the Smarter Balanced Assessment Consortium has used cognitive labs and analyses of student responses to ensure that the evidence elicited by each item type is well aligned to its intended purpose.

Shelbi K. Cole, Smarter Balanced at UCLA, Los Angeles, CA

Kevin Liner, Capitol Region Education Council (CREC), Hartford, CT

SESSION 266 **157 A**
STRAND 4 **ELEMENTARY (K - 5)**

Cameras in the Classroom: Designing Effective Collaboration around Learning

All too often, professional development, even at its best feels disconnected from classroom practice. To address this, we worked with a core group of highly skilled teacher leaders to collect video vignettes and design professional development modules, piloting their use in learning communities to promote discourse around student thinking.

Jan Parsons, University of Delaware, Newark, DE

Valerie Maxwell, University of Delaware, Newark, DE

SESSION 267 **157 C**
STRAND 2 **ELEMENTARY (K - 5)**

Supporting Effective Technology Usage and Integration to Enhance Engagement and Growth in Mathematics Learning

Teachers will leap at the opportunity to bring technology into their classrooms, however, many struggle to integrate technology in ways that positively impact student growth. Participants will learn about coaching tools and strategies to support effective technology integration that both increases student engagement and enhances student learning.

Eliza Bryant, University of Chicago, CEMSE, Chicago, IL

Denise Porter, University of Chicago, CEMSE, Chicago, IL

Amanda Zimolzak, University of Chicago, Chicago, IL

2:15 PM - 3:15 PM CONT...

SESSION 268 **151 AB**
STRAND 1 **SECONDARY (6-12)**

Teaching Differentiated Instruction by Example

We tell our teachers to use differentiated instruction, but do we ever demonstrate exactly what it means. This workshop will demonstrate the use of differentiated instruction strategies specifically aimed at meeting the CCSS for Mathematical Practice. The latest research brain based teaching are also implemented and discussed.

Mary Robertson, Florida Southwestern State College, Fort Myers, FL

SESSION 269 **152**
STRAND 4 **SECONDARY (6-12)**

Practicing the Practices: Supporting Mathematical Understanding Through the Use of Number Talks in Middle School & High

Gain insights into how state/district mathematics leaders have supported the infusion of Number Talks at the elementary level and motivated a focused effort to incorporate them into their secondary schools. Participants will watch videos illustrating the impact of Number Talks in secondary classrooms and walk away with samples to use in their own schools.

Crystal Lancour, Colonial School District, New Castle, DE

Jamila Riser, Delaware Mathematics Coalition, Dover, DE

Valerie Maxwell, University of Delaware, Newark, DE

Kristin Gray, Cape Henlopen School District, Lewes, DE

SESSION 270 **153 A**
STRAND 1 **INTERMEDIATE (3 - 5)**

Standard for Mathematical Practices 1: Cultivating Perseverance in Students Who Struggle

To expect students to persevere, educators must teach them to normalize productive struggle. Participants will learn how to support educators who work with reluctant learners -- encouraging them to create an environment that embraces "tinkering"; shifts "helping" to "conferring"; and provides mathematical models to scaffold grade-level learning.

Cristina Charney, North Thurston Public Schools, Lacey, WA

Janeal Maxfield, North Thurston Public Schools, Lacey, WA

SESSION 271 **153 B**
STRAND 3 **HIGH SCHOOL (9 - 12)**

Probing Student Understanding and Assessing for Learning in a Technology-Rich Classroom

Join us in this hands-on session as we encourage, elicit, and monitor responses to questions designed to probe and assess student understanding of mathematical concepts. In this learning experience we will view strategies to make students'-thinking more visible, and use technology as a tool to help inform and adjust instructional "next steps."

Ruth Casey, Teachers Teaching with Technology, Frankfort, KY

Margaret Bambrick, University High School, Orange City, FL

SESSION 272 **153 C**
STRAND 1 **HIGH SCHOOL (9 - 12)**

8 by 8: Connecting Teaching Practices and Student Mathematical Practices

The CCSS describes eight Standards for Mathematical Practice for students' engagement in mathematical work. NCTM introduced eight Mathematics Teaching Practices in Principles to Actions. How are these sets of practices related? Using video vignettes we will examine how effective teaching elicits authentic mathematical work.

Scott Hendrickson, Brigham Young University, Provo, UT

Dawn Barson, Alpine School District, American Fork, UT

SPONSOR SHOWCASE

SESSION 273 **157 B**
STRAND 4 **MIDDLE (6 - 8)**

Looking for Meaning Before the Task

How can you engage students in lessons that lead to conceptual development? We'll look at tasks and problem solving from the ground up, showing activities that will engage students and build their understanding of foundational concepts in middle grades mathematics.

Jennifer Wilson, Rankin County School District, Brandon, MS

TECHNOLOGY SHOWCASE

SESSION 274 **154**
STRAND 2 **GENERAL**

Helping Students Achieve Greatness by Incorporating Easy to Use, Affordable Casio Technology in the Classroom

Explore Casio's full line of Easy to Use Educational Products and Services. Learn about our Classroom Tools, Resources and the benefits of the "Casio Difference."

Mike Reiners, Casio/Presenter, Dover, NJ

CAUCUSES, TUESDAY 3:30 PM - 4:15 PM

The caucus provides opportunities for you to connect, network and celebrate regional success with fellow leaders. Your NCSM Regional Director and state/provincial leaders will share information on NCSM initiatives, national/provincial issues, and future events. There will be door prizes...we look forward to seeing you at the caucus.

SESSION 275 **156 A**

NCSM Past-President Caucus

Suzanne Mitchell, NCSM Past President, 2011-2013, Jonesboro, AR
All past presidents of NCSM are invited.

SESSION 276 **156 B**

Eastern 2 Region - Regional Caucus

Bill Barnes, NCSM E2 Regional Director, Ellicott City, MD
Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, West Virginia

SESSION 277 **156 C**

Eastern Region 1 - Regional Caucus

Suzanne Libfeld, NCSM E1 Regional Director, Bronx, NY
Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, Military State AF (Armed Forces, Africa, Canada, Europe, and Middle East)

SESSION 278 **157 A**

Southern Region 1 - Regional Caucus

Wanda Audrict, NCSM S1 Regional Director, Stone Mountain, GA
Bermuda, Forida, Georgia, North Carolina, Puerto Rico, South Carolina, Virginia, Virgin Islands, Military State AA (Armed Forces America)

SESSION 279 **157 C**

Southern 2 Region - Regional Caucus

Linda Griffith, NCSM S2 Regional Director, Conway, AR
Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas

SESSION 280 **151 AB**

Central Region 2 - Regional Caucus

Comfort Akwaji-Anderson, NCSM C2 Regional Director, Iowa City, IA
Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin

SESSION 281 **152**

Central Region 1 - Regional Caucus

Gwen Zimmermann, NCSM C1 Regional Director, Lincolnshire, IL
Indiana, Kentucky, Michigan, Ohio

SESSION 282 **153 A**

Western Region 2 - Regional Caucus

Nancy Drickey, NCSM W2 Regional Director, McMinnville, OR
California, American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Palau, Hawaii, Oregon, Washington, Military State AP (Armed Forces Pacific)

SESSION 283 **153 B**

Western Region 1 - Regional Caucus

Mona Toncheff, NCSM W1 Regional Director, Phoenix, AZ
Alaska, Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming

SESSION 284 **153 C**

Canada - Regional Caucus

Carol Matsumoto, NCSM Canadian Regional Director, Winnipeg, Manitoba, CA
Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon

SESSION 285 **153 C**
STRAND 2 **GENERAL**

International - Regional Caucus

Valerie Mills, NCSM President, Waterford, MI
Anyone from outside the United States and Canada is invited

4:30 PM - 5:15 PM

TUESADAY MEETING

SESSION 286 **151 AB**
GENERAL

NCSM Business Meeting and State of the Organization Report

NCSM President Valerie L. Mills will present the State of the Organization Report that will describe the progress on the 2014–2015 Initiatives, positions papers, and other strategic priorities for the next year. In addition, new NCSM Affiliate certificates will be proudly presented along with our Annual Membership and Financial Reports. All members are welcome and encouraged to attend!

Valerie L. Mills, NCSM President, Waterford, MI

Jon Manon, NCSM Treasurer, Newark, DE

TUESDAY RECEPTION

5:30 PM - 7:00 PM

SESSION 287 **TICKET REQUIRED** **LEVEL 3 BALLROOM LOBBY**
STRAND 2 **GENERAL**

Join us for a ticketed reception. Discovery Education is the global leader in standards-based digital content for K-12 classrooms, transforming teaching and learning with award-winning digital textbooks, multimedia content, professional development, assessment tools, and the largest professional learning community of its kind. Discovery Education partners with districts, states and like-minded organizations to captivate students, empower teachers, and transform classrooms with customized solutions, such as the recently released Math Techbook, that accelerate academic achievement. Discovery Education's services are available not only in half of all U.S. schools, but in half of all English primary schools, numerous institutes of higher learning, and in 50 countries around the world. To learn more about Discovery Education, visit www.discoveryeducation.com.

Patrick Vennebush, Discovery Education, Silver Spring, MD

Jennifer O'Brien, Discovery Education, Silver Spring, MD

Matt Monjan, Discovery Education, Silver Spring, MD

NOTES

WEDNESDAY PROGRAM

Session Types:

Major Sessions
Spotlight Sessions
Regular Sessions
Special Interest Group Meetings
Ignite! Session

Ticketed Events:

Breakfast –Sponsored by **Pearson (ticket required)**
Meals & Functions Area, Hall B1 of the Boston Conference & Exhibit Center

Luncheon – Sponsored by **Think Through Math (ticket required)**
Meals & Functions Area, Hall B1 of the Boston Conference & Exhibit Center

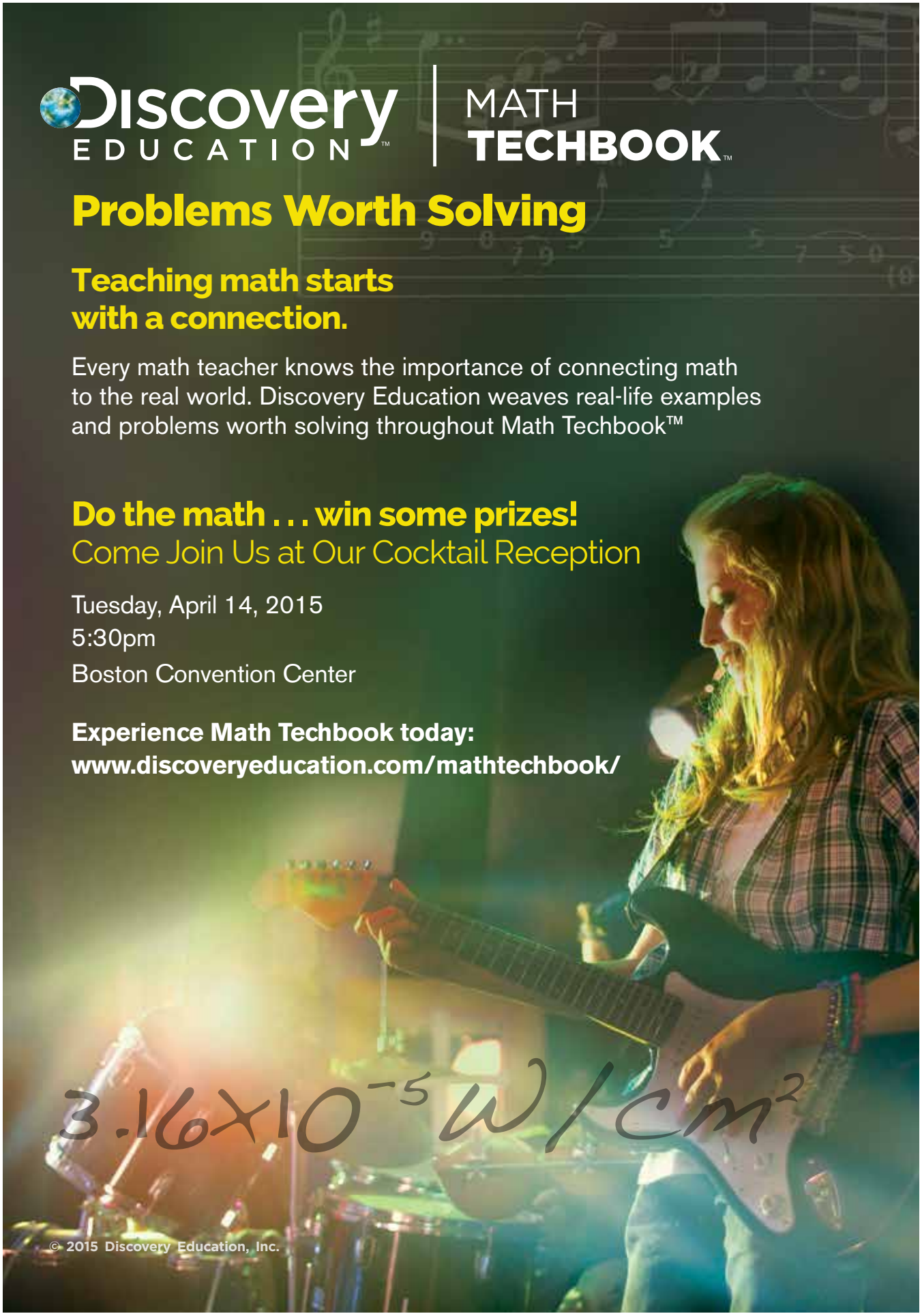
Registration

7:30 am – 10:30 am Level 1 in the North East Lobby area of the Boston Convention and Exhibit Center

Use the Conference Planner at the end of this book to outline your daily schedule.

Wear your NCSM Conference Name Badge to gain entrance to sessions, ticketed events, and the sponsor display area.

Please obey Fire Code standards in sessions—No standing; no sitting on the floor; no moving of chairs from one room to another.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ORIGO

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K-5

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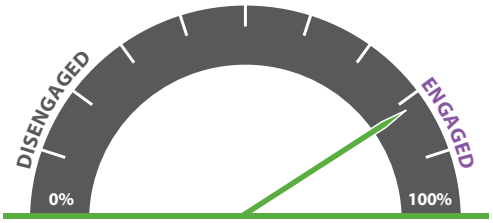
John Hopkins School of Education reports:*

81% of students are highly engaged.



PARTICIPANTS' PERCEPTION OF STUDENT ENGAGEMENT

Participants reported, on average, that students were engaged in learning math this year and that students learned how to solve problems more effectively as a result of the program.

TEACHERS USING *ORIGO STEPPING STONES*:

- Enjoy teaching the program
- Enhance their knowledge of math content
- Increase their confidence in teaching math
- Feel the program meets the needs of their students
- Support the goals of the program

* In a 2013/14 study conducted at Worthington School District.

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- Rated in the Top 100 products of 2012 by *District Administrative* magazine
- *Education Software Review* (EDDIE) Award Winner (2012 & 2013)
- Winner of a Distinguished Achievement Award from the Association of Education Publishers

100% ALIGNED TO CCSS

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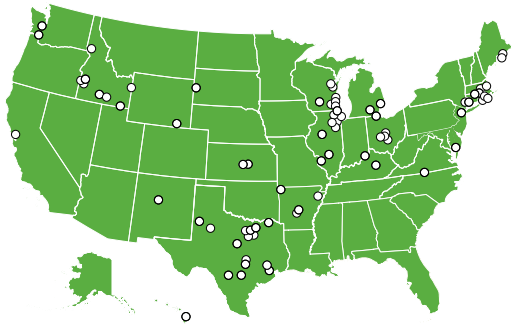

350% INCREASE IN *STEPPING STONES* ADOPTION

2013
100,000 students

2014
450,000+ students

= 10,000 students

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- ALBUQUERQUE Public Schools
- HAWAII Public Schools

ADOPTED BY THE STATES OF:

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Georgia • Mississippi • New Mexico • Utah

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PROGRAM SUMMARY INFORMATION FOR WEDNESDAY, APRIL 15

See page 5 for Conference Strand descriptions.

NOTES

WEDNESDAY SUMMARY

7:30-8:30: Session 300: Breakfast (ticket required), Exhibit Hall B1 NW, Sponsored by *Pearson*

	104 ABC	103	105	106	107 A	107 BC
8:45-9:45	**Session 301** Strand 3, General ***Herbel-Eisenmann,*** *Gauging Formative Assessment Through Productive AND Powerful Discourse*	**Session 302** Strand 1, Secondary (6-12) ***Greenes,*** *Do You know What Your Students Know? Strategies For Updating Teachers in Content and Assessment*	**Session 303** Strand 5, General ***Hakansson,*** *Leadership Pedagogy for Closing the Opportunity Gap in Mathematics Education*	**Session 304** Strand 2, Elementary (K-5) ***Daley, Malone,*** *Reframing the Dilemmas for Teachers and Leaders in a Resource Abundant Era*	**Session 305** Strand 4, General ***Sutton, Mitchell,*** *Strategies for Contributing to a Culture of Mathematics Coaching*	**Session 306** Strand 4, General ***Ball, Garcia, Shaughnessy,*** *Beyond "Tell Me What You Noticed": Using Video to Improve Instruction*
10:00-11:00	**Session 318** Strand 2, General ***Honey,*** *Irresistible Learning - Using Mobile Tools to Support Deeper Learning and Deeper Engagement for All Students*	**Session 319** Strand 4, General ***Mitchell, Greenes, Gojak,*** *Challenges and Strategies for Mathematics Leaders in Cross Curricular Initiatives-Modeling, Conjecturing, Reasoning*	**Session 320** Strand 4, General ***Dominick, Parrish,*** *Developing Fluency with Fractional Reasoning Through Number Talks*	**Session 321** Strand 5, Elementary (K-5) ***Lambert, Williams, DiBrienza,*** *Number Strings: Leveraging Contexts and Models in a Strategic Thinking Routine for All Learners*	**Session 322** Strand 2, Secondary (6-12) ***Otten, Yeong I,*** *Technologies and Tasks that Promote Mathematics from an Advanced Perspective*	**Session 323** Strand 4, General ***Bay-Williams, McGatha,*** *Questioning Strategies for Coaching and Teaching*
11:15-12:15	**Session 335** Strand 4, General ***Tang,*** *Hey! What's the Big Idea?*	**Session 336** Strand 2, Intermediate (3-5) ***Stehr, Satyam, Smith, Gilbertson,*** *Fraction Multiplication and Division using Virtual Measurement Models*		**Session 338** Strand 1, General ***Callard, Martin, LaVoie*** *Engaging Administrators: Putting the Pieces of the Common Core Puzzle Together to Support Teachers and Students*	**Session 339** Strand 5, Elementary (K-5) ***Roberts, Armstrong, Burr,*** *Supporting Teachers in Shifting Practices: One District's Multi-Layered Approach to Common Core Implementation*	**Session 340** Strand 3, General ***Kanold,*** *Ready, Feedback, Action: Going Beyond Checking for Understanding!*

12:30-2:00: Session 351: Luncheon Ticket Required, Sponsored by *McGraw Hill* and *Think Through Math*, Exhibit Hall B1 NW

2:15-3:15	**Session 352** Strand 5, Secondary (6-12) ***Brown,*** *Access, Equity, and the Standards for Mathematical Practice*	**Session 353** Strand 5, General ***Trevino, Barnes,*** *Our Students, Our Teachers, Our San Francisco Common Core Implementation Plan*	**Session 354** Strand 5, Elementary (K-5) ***Belisle-Chatterjee, Whittington, Molina,*** *Building Language Capacity for Access and Higher Levels of Communication in Mathematics*	**Session 355** Strand 4, General ***Thanheiser, Melhuish, Foreman, Shaugnessy,*** *Teacher "Buy-In" and It's Relation to Professional Development*	**Session 356** Strand 4, Secondary (6-12) ***Porath,*** *Teaching High School Algebra: A What Works Clearinghouse Practice Guide*	**Session 357** Strand 1, General ***Seeley,*** *The Right Kind of Struggling: Helping All Students Become Mathematical Thinkers*
3:30-4:30	**Session 368** Strand 3, General ***Wiliam,*** *Sustaining the Development of Classroom Formative Assessment with Teacher Learning Communities*					**Session 369** Strand 1, General ***Dixon,*** *Supporting Five Essential Instructional Shifts for Transforming K-12 Common Core Math Classrooms*

WEDNESDAY SUMMARY

7:30-8:30: Session 300: Breakfast (ticket required), Exhibit Hall B1 NW, Sponsored by *Pearson*

	156 A	156 B	156 C	157 A	157 C	151 AB
8:45-9:45	**Session 307** Strand 4, Intermediate (3-5) ***Bastable,*** *Interviewing Students to Learn About Their Algebraic Reasoning: What Teachers Learn and How it Informs Their Practice*	**Session 308** Strand 1, Elementary (K-5) ***Khalsa, McNamara,*** *The Magnitude of Whole Numbers and Fractions on the Number Line*	**Session 309** Strand 4, General ***Briars,*** *Strategies and Tools to Support Teachers' Enactment of Effective Mathematics Teaching Practices*	**Session 310** Strand 2, General ***Watterson, Fitzgerald, White,*** *Using Virtual Technology to Promote Formative Assessment and Learning Progressions from a State System Perspective*	**Session 311** Strand 5, General ***Barnes, Tucher, Daro, Asturias,*** *Secondary Course Sequence: San Francisco and Oakland Partnering Across the Bay Bridge*	**Session 312** Strand 3, General ***Dockterman,*** *Measuring Academic Mindsets for Math: The Next Generation of Formative Assessment?*
10:00-11:00	**Session 324** Strand 4, Secondary (6-12) ***Taylor, Simone,*** *Embedding Math Content Knowledge in Team and Teacher Development*	**Session 325** Strand 3, Middle (6-8) ***Wilburne,*** *Effective Formative Assessment that Promote the Standards for Mathematical Practice*	**Session 326** Strand 3, General ***Bitter,*** *Integrating Mobile Technology into the Mathematics Classroom*	**Session 327** Strand 2, Secondary (6-12) ***Nank,*** *Mathematical Modeling with Strawberries and Videos*	**Session 328** Strand 1, Intermediate (3-5) ***Buck, Susi,*** *Way Cool! Teaching the Distributive Property Utilizing the Mathematical Practices*	**Session 329** Strand 1, Elementary (K-5) ***Callaway, Lancour, Igo,*** *Bridging the Gap with Number Talks: Continuing Productive Student Math Talk from the Elementary to Middle School Years*
11:15-12:15	**Session 341** Strand 4, General ***Paek, Asturias, Walston,*** *Supporting an In-Depth Review and Understanding of Instructional Materials*	**Session 342** Strand 5, Middle (6-8) ***Nikula, Driscoll,*** *The Many Faces of Diagrams - Supporting Mathematical Reasoning and Communication for All Students*	**Session 343** Strand 3, Secondary (6-12) ***Wilson, Gough,*** *The Art of Questioning: Transforming Your Professional Learning Community*	**Session 344** Strand 1, Middle (6-8) ***Ray,*** *Using Video and Storytelling to Illustrate Teaching with the Mathematical Practices*	**Session 345** Strand 4, General ***Diehl,*** *The Long Term Work of Changing Adult Mindsets*	**Session 346** Strand 4, General ***Kepner, Kanold, Briars, Leinwand,*** *A Fast-Paced Program on Productive Solutions to Challenges Confronting Mathematics Leaders-Advocacy and Policy Support*

12:30-2:00: Session 351: Luncheon Ticket Required, Sponsored by *McGraw Hill* and *Think Through Math*, Exhibit Hall B1 NW

2:15-3:15	**Session 358** Strand 1, Middle (6-8) ***Mason, Moore, Shippee,*** *What Mathematics Specialists and Coaches Know About Rational Numbers and How to Teach Them What They Don't Know*	**Session 359** Strand 4, Elementary (K-5) ***Storeygard, Malzahn,*** *Sustaining Professional Development: Beyond One and Done*	**Session 360** Strand 1, Intermediate (3-5) ***Nesbitt, Schock, Tighe,*** *Modeling with Manipulatives: Helping Teachers Implement the Mathematics Practices*	**Session 361** Strand 1, High School (9-12) ***Riser, Albers, Rayala, Parsley,*** *Statewide Initiative to Promote Systemic Change in the Era of the CCSS: Building Structures to Routinize the Practices*	**Session 362** Strand 4, Elementary (K-5) ***Flynn,*** *Creating Mathematics Apprenticeships for New Teachers*	**Session 363** Strand 3, High School (9-12) ***Wees,*** *Rich Mathematical Tasks as Formative Assessment*
3:30-4:30	**Session 370** Strand 4, General ***Remillard, Burrill, Seshaiyer,*** *International Perspectives on Supporting Mathematics Teaching and Learning*		**Session 371** Strand 5, General ***Hakansson,*** *TODOS: Mathematics for ALL - Focusing on the Mathematics Education of Latina/o Students and Other Underrepresented Groups*	**Session 372** Strand 3, General ***Charischak, Weksler,*** *Online Collaborative Technology (Social Media) in the Mathematics Classroom - Moving Forward*		**Session 373** Strand 4, General ***Alejandre,*** *Ignite! We'll Enlighten You and We'll Make It Quick*
3:30-5:00						

WEDNESDAY SUMMARY

7:30-8:30: Session 300: Breakfast (ticket required), Exhibit Hall B1 NW, Sponsored by *Pearson*

	152	153 A	153 B	153 C	157 B	154
8:45-9:45	**Session 313** Strand 1, General ***Garcia,*** *Developing Teaching that Supports Engagement in the Mathematical Practices*	**Session 314** Strand 1, Middle (6-8) ***Anderson, Crissman, Ferrin,*** *Learning to Facilitate Whole-Class Discussions that Focus on the Big Ideas of the Lesson*	**Session 315** Strand 4, General ***Thomas, Shahbaz,*** *Developing Teacher Leaders Within and Online Learning Environment*	**Session 316** Strand 4, Intermediate (3-5) ***Zeller, Shepard,*** *Engage Teachers as Learners of Mathematics: Increasing Pedagogical Content Knowledge with Modular PD*	**Session 317** Strand 4, Middle (6-8) ***Kennedy,*** *In Search of the Missing "C": How We Brought Creativity into Our Middle School Mathematics Classrooms*	
10:00-11:00	**Session 330** Strand 1, Elementary (K-5) ***Atkins,*** *Living Outside the Box: Developing Solutions for Closing the Mathematical Achievement Gap*	**Session 331** Strand 4, General ***Tribbey, Edwards,*** *Mathematics Education Trust: Grants/Scholarships, What and How to Apply*	**Session 332** Strand 4, Secondary (6-12) ***Utley,*** *Revistiting Geometric Constructions: Construct and Describe*	**Session 333** Strand 4, Elementary (K-5) ***Schefelkler, Laughlin, Hedges,*** *Making Sense of the K-5 OA Domain: Using the Progressions to Support Classroom Instruction*	**Session 334** Strand 1, Elementary (K-5) ***Griffith,*** *Great Modeling Task in 3 Acts for Elementary Meeting the Model and With Mathematics Practice*	
11:15-12:15	**Session 347** Strand 4, Secondary (6-12) ***Toncheff, Cunningham,*** *High School Coaching Model: Utilize a PLC Culture to Differentiate Professional Development*	**Session 348** Strand 1, Middle (6-8) ***Richard, Varlotta,*** *The Ideal Math Class! Helping Teachers Engage Middle School Students in the Standards for Mathematical Practice*	**Session 349** Strand 4, General ***Papakonstantinou, Parr,*** *Leveraging University/ School District Partnerships to Support Mathematics Learning for ALL*	**Session 350** Strand 4, Elementary (K-5) ***Bender, Munson, Watkins,*** *Partnering to Improve Mathematics Instruction Through Learning Walks*	**Session 350.5** Strand 3, General ***Wilson, Knoell,*** *Using Questioning Strategies and Dry Erase Boards to Enhance Formative Assessment Practice and to Increase Rigor: Incr*	

12:30-2:00: Session 351: Luncheon Ticket Required, Sponsored by *McGraw Hill* and *Think Through Math*, Exhibit Hall B1 NW

	152	153 A	153 B	153 C	157 B	154
2:15-3:15	**Session 364** Strand 1, High School (9-12) ***Lemon,*** *Connecting Progression and Practices with High Quality Tasks*	**Session 365** Strand 4, General ***Lofgren,*** *Studio Days - Deprivatizing Our Practice to Improve Instruction*	**Session 366** Strand 2, College ***Sattler,*** *How to Engage Students in an e-Learning Environment*	**Session 367** Strand 1, Intermediate (3-5) ***Moynihan, Shein-Gerson,*** *Reflecting the Light of Learning Through the Mathematical Practices: Finding the Gold within the MPs*		
3:30-4:30			**Session 374** Strand 4, General ***Hendrix, Thomas, Arbaugh,*** *Mathematics Teaching and Learning: What's Happening in AMTE and How Can AMTE Support Your Work with Teachers?*			

WEDNESDAY SESSIONS BY STRAND

STRAND 1: LEADING INSTRUCTION TO LEVERAGE THE MATHEMATICS PRACTICES FOR INCREASED ACHIEVEMENT

SESSION	LOCATION	TIME
302	103	8:45-9:45
308	156 B	8:45-9:45
313	152	8:45-9:45
314	153 A	8:45-9:45
328	157 C	10:00-11:00
329	151 AB	10:00-11:00
330	152	10:00-11:00
334	157 B	10:00-11:00
338	106	11:15-12:15
344	157 A	11:15-12:15
348	153 A	11:15-12:15
357	107 BC	2:15-3:15
358	156 A	2:15-3:15
360	156 C	2:15-3:15
361	157 A	2:15-3:15
364	152	2:15-3:15
367	153 C	2:15-3:15
369	107 BC	3:30-4:30

STRAND 2: EXAMINING THE OPPORTUNITIES AND CHALLENGES OF USING TECHNOLOGY TO SUPPORT TEACHING AND LEARNING MATHEMATICS

SESSION	LOCATION	TIME
304	106	8:45-9:45
310	157 A	8:45-9:45
318	104 ABC	10:00-11:00
322	107 A	10:00-11:00
327	157 A	10:00-11:00
336	103	11:15-12:15
366	153 B	2:15-3:15
372	157 A	3:30-4:30

STRAND 3: ADVANCING FORMATIVE ASSESSMENT AS AN INTEGRAL TOOL FOR UNDERSTANDING STUDENT THINKING AND GUIDING INSTRUCTIONMATHEMATICS

SESSION	LOCATION	TIME
301	104 ABC	8:45-9:45
312	151 AB	8:45-9:45
325	156 B	10:00-11:00
326	156 C	10:00-11:00
340	107 BC	11:15-12:15
343	156 C	11:15-12:15
350.5	157 B	11:15-12:15
363	151 AB	2:15-3:15
368	104 ABC	3:30-4:30

STRAND 4: EXPLORING STRATEGIES AND TOOLS FOR MATHEMATICS LEADERS AND COACHES TO SUPPORT MATHEMATICS LEARNING

SESSION	LOCATION	TIME
305	107 A	8:45-9:45
306	107 BC	8:45-9:45
307	156 A	8:45-9:45
309	156 C	8:45-9:45
315	153 B	8:45-9:45
316	153 C	8:45-9:45
317	157 B	8:45-9:45
319	103	10:00-11:00
320	105	10:00-11:00
323	107 BC	10:00-11:00
324	156 A	10:00-11:00
331	153 A	10:00-11:00
332	153 B	10:00-11:00
333	153 C	10:00-11:00
335	104 ABC	11:15-12:15
341	156 A	11:15-12:15
345	157 C	11:15-12:15
346	151 AB	11:15-12:15
349	153 B	11:15-12:15
355	106	2:15-3:15
356	107 A	2:15-3:15
359	156 B	2:15-3:15
362	157 C	2:15-3:15
365	153 A	2:15-3:15
370	156 A	3:30-4:30
374	153 B	3:30-4:30

STRAND 5: SHIFTING PRACTICES TO EFFECTIVELY IMPLEMENT THE COMMON CORE STATE STANDARDS: EQUITY FOR ALL LEARNERS WITH FOCUS, RIGOR, AND DEPTH

SESSION	LOCATION	TIME
303	105	8:45-9:45
311	157 C	8:45-9:45
321	106	10:00-11:00
339	107 A	11:15-12:15
342	156 B	11:15-12:15
347	152	11:15-12:15
350	153 C	11:15-12:15
352	104 ABC	2:15-3:15
353	103	2:15-3:15
354	105	2:15-3:15
371	156 C	3:30-5:00

7:30 AM - 8:30 AM

SESSION 300
STRAND 5

TICKET REQUIRED

EXHIBIT HALL B1 NW
GENERAL

The Future Of Math Textbooks (If Math Textbooks Have A Future)

The transition from print to digital mathematics curricula will be challenging, complex, and liberating. We will briefly examine the potential downside of print media and then focus on harnessing the upside of digital media. What should supervisors expect from the future of mathematics textbooks?

Dan Meyer, Stanford University, Stanford, CA

Dan advocates for better math instruction on his blog and on CNN, Good Morning America, Everyday With Rachel Ray, and TED.com. He currently studies math education at Stanford University, speaks internationally, and works with textbook publishers, helping them move from education¹s print past to its digital future. He was named one of Tech & Learning¹s 30 Leaders of the Future and an Apple Distinguished Educator. He lives in Mountain View, CA.

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PEARSON

8:45 - 9:45 AM

MAJOR PRESENTATION

SESSION 301 **104 ABC**
STRAND 3 **GENERAL**

Gauging Formative Assessment Through Productive AND Powerful Discourse

Beth Herbel-Eisenmann, Michigan State University, East Lansing, MI

Presider: **Comfort Akwaji-Anderson**, NCSM Regional Director

Everything students do to communicate (say, write, draw, gesture, etc.) in our classrooms provides evidence that can be used to assess student learning. A dual focus on what students learn about mathematics and mathematics discourse practices (productive discourse) and what students learn about themselves as people who know and do mathematics (powerful discourse) can help to gauge one's formative assessment practices. In this talk, I address productive and powerful discourse and illustrate what teachers learn and changes they make to their practice as they use these ideas to do action research in their classrooms.

Beth Herbel-Eisenmann is a former junior high mathematics teacher, I am currently Associate Professor of Mathematics Education at Michigan State University. Most of my work involves collaborating with secondary mathematics teachers to learn about mathematics classroom discourse and to work toward intentional changes to classroom discourse practices through action research. We collaboratively disseminate findings from our work at regional and national conferences and one of these collaborations produced an edited volume, Promoting purposeful discourse: Teacher research in mathematics classrooms, which was published by NCTM in 2009. These collaborations are extremely influential to my practice as a mathematics teacher educator. They also inform my current design work co-authoring professional development materials, which focus on supporting mathematics teachers to become more purposeful about having productive and powerful classroom discourse.

By drawing on ideas from sociolinguistics and discourse literatures, my research examines mathematics classroom discourse practices as well as the professional development of secondary mathematics teachers. Much of this work has been done in collaboration with colleagues in the US and Canada and has focused on issues of authority, voice, and positioning in mathematics classroom discourse.

SESSION 302 **103**
STRAND 1 **SECONDARY (6-12)**

Do You Know What Your Students Know? Strategies for Updating Teachers in Content and Assessment

Core mathematics ideas and what it means to "know" them, and the nature of assessments to reveal students' understanding of those ideas, will be described. The same assessments used with students were also used with teachers to gauge their understanding of what their students know in depth. How to structure PD based on this technique will be presented.

Carole Greenes, Arizona State University, Tempe, AZ

PRESIDENTS EXCHANGE

SESSION 303 **105**
STRAND 5 **GENERAL**

Leadership Pedagogy for Closing the Opportunity Gap in Mathematics Education

ALL leaders must focus on equity in mathematics education. This requires a paradigm shift to a leadership pedagogy, where excellence and equity are at the center of professional development. This pedagogy includes the following knowledge, beliefs, and actions: mathematics content knowledge, equity, advocacy, partnerships, and outcomes focused.

Susie Hakansson, TODOS: Mathematics for ALL, Tempe, AZ

SESSION 304 **106**
STRAND 2 **ELEMENTARY (K - 5)**

Reframing the Dilemmas for Teachers and Leaders in a Resource Abundant Era

Gone are the days when the district bought "the book" and teachers taught "the book." Common standards and internet access has created resource abundance. While finding lessons is no longer a problem, evaluating, organizing, and storing are some of our new dilemmas. We will examine technology-based solutions, and consider leadership in this era.

Molly Daley, Evergreen Public Schools, Vancouver, WA

Tawny Malone, Evergreen Public Schools, Vancouver, WA

8:45 - 9:45 AM CONT...

SESSION 305 **107 A**
STRAND 4 **GENERAL**

Strategies for Contributing to a Culture of Mathematics Coaching

An important strategy to support mathematics learning is promoting a culture of coaching that provides clear expectations for high-quality teaching. This session focuses on identifying and examining expectations, behaviors, strategies, and practices that contribute to a culture for mathematics coaching for teachers, coaches, and administrators.

John Sutton, RMC Research Corporation, Denver, CO

Arlene Mitchell, RMC Research Corporation, Denver, CO

SPOTLIGHT SPEAKER

SESSION 306 **107 BC**
STRAND 4 **GENERAL**

Beyond "Tell Me What You Noticed": Using Video to Improve Instruction

Deborah Ball, University of Michigan, Ann Arbor, MI

Nicole Garcia, University of Michigan, Ann Arbor, MI

Meghan Shaughnessy, University of Michigan, Ann Arbor, MI

Presider: **Denise Brady**, NCSM Fall Leadership Seminar Director

Video records of teaching have become broadly available and are increasingly popular for use in teacher development. This session offers a framework for the use of video to support teachers' learning and focuses on three ways to leverage the use of such records in practice-based professional development.

SESSION 307 **156 A**
STRAND 4 **INTERMEDIATE (3 - 5)**

Interviewing Students to Learn About Their Algebraic Reasoning: What Teachers Learn and How it Informs Their Practice

This session examines teacher interviews focused on maintaining equivalence in addition and multiplication expressions; highlighting the principles which underlie strategies for computations such as 19 + 6 = 20 + 5 and 16 x 3 = 8 x 6. With this form of professional development, teachers uncover how students reason and consider implications for their practice.

Virginia Bastable, Mount Holyoke College, South Hadley, MA

SESSION 308 **156 B**
STRAND 1 **ELEMENTARY (K - 5)**

The Magnitude of Whole Numbers and Fractions on the Number Line

Learn how to help teachers effectively use the number line with students to round whole numbers, reinforce the understanding of fractions as numbers, deepen understanding of magnitude, and make comparisons. Strategies for addressing the Common Core content and practice standards along with free online tools will be presented.

Arjan Khalsa, Conceptua Math, Petaluma, CA

Julie McNamara, Cal State East Bay, Hayward, CA

PRESIDENTS EXCHANGE

SESSION 309 **156 C**
STRAND 4 **GENERAL**

Strategies and Tools to Support Teachers' Enactment of Effective Mathematics Teaching Practices

Learn about leadership/coaching strategies, tools, and resources to support teachers' enactment of the effective teaching practices in NCTM's Principles to Actions: Ensuring Mathematical Success for All so all students attain conceptual understanding, procedural fluency, problem-solving, and reasoning called for in the Common Core State Standards.

Diane Briars, National Council of Teachers of Mathematics, Reston, VA

SESSION 310 **157 A**
STRAND 2 **GENERAL**

Using Virtual Technology to Promote Formative Assessment and Learning Progressions from a State System Perspective

This presentation highlights three workshops "bundled" for virtual delivery of professional learning. The bundle allows strategic implementation of one topic, from task enhancement-to formative assessment on a learning progression-to remedial action planning. Our work focuses on Place Value Reasoning for K-5 and Proportional Reasoning for 6-12.

Tracy Watterson. M.Ed, Vermont Agency of Education, Barre, VT

Mary Fitzgerald, M. Ed, Bellows Free Academy, Fairfax, VT

Lara White, M. Ed, Vermont Agency of Education, Barre, VT

8:45 - 9:45 AM CONT...

SESSION 311 **157 C**
STRAND 5 **GENERAL**

Secondary Course Sequence: San Francisco and Oakland Partnering Across the Bay Bridge

Mathematics leaders from San Francisco and Oakland collaborated for 18 months around a secondary course sequence that aligns with the CCSS. With SERP partners Harold Asturias and Phil Daro, each district wrote a research-based paper approved unanimously by their respective school boards, now guiding policy, teacher learning, and public outreach.

Lizzy Hull Barnes, SFUSD Division of Curriculum and Instruction, STEM Math Department, San Francisco, CA

Phil Tucher, Oakland Unified School District, Oakland, CA

Phil Daro, SERP, Pearson, Berkeley, CA

Harold Asturias, UC Berkeley, Berkeley, CA

SESSION 312 **151 AB**
STRAND 3 **GENERAL**

Measuring Academic Mindsets for Math: The Next Generation of Formative Assessment?

Most assessments measure student knowledge and skills. But what about student mindsets -- their belief in their ability to do mathematics, their willingness to take risks in the classroom, their engagement with the content? This session will show how to gain a window into the underlying factors driving student effort as a tool for boosting performance.

David Dockterman, Harvard/Faculty; Scholastic/Chief Architect, Learning Sciences, Watertown, MA

SESSION 313 **152**
STRAND 1 **GENERAL**

Developing Teaching that Supports Engagement in the Mathematical Practices

Administrators and coaches must support teachers to engage students in the mathematical practices (MPs) in order to achieve the rigor required by the CCSSM. In this session we work together on instructional practices that help students engage in the MPs and share ways to help teachers develop these.

Nicole Garcia, University of Michigan, Ann Arbor, MI

SESSION 314 **153 A**
STRAND 1 **MIDDLE (6 - 8)**

Learning to Facilitate Whole-Class Discussions that Focus on the Big Ideas of the Lesson

Productive whole-class discussions help students compare solution methods, attend to mathematical structure, and form generalizations. In this session, educators from one school community will describe how content-based coaching and team teaching helped them learn how to implement productive whole-class discussions in mathematics class.

Nancy Anderson, Milton Academy, Milton, MA

Will Crissman, Milton Academy, Milton, MA

Carrie Ferrin, Milton Academy, Milton, MA

PRESIDENTS EXCHANGE

SESSION 315 **153 B**
STRAND 4 **GENERAL**

Developing Teacher Leaders Within an Online Learning Environment

Professional Learning Communities (PLCs)play multifaceted roles by providing sources of ongoing instructional support for teachers. Using the engaging images and video clips of a multiuser virtual world, we share the influence of an online PLC in a teacher's trajectory from novice, to exemplar in the mathematics classroom, to teacher leader.

Christine Thomas, Georgia State University/ AMTE, Atlanta, GA

Rabia Shahbaz, Gwinnett Public Schools, Suwanee, GA

SESSION 316 **153 C**
STRAND 4 **INTERMEDIATE (3 - 5)**

Engage Teachers as Learners of Mathematics: Increasing Pedagogical Content Knowledge with Modular PD

Integrate hands-on teacher workshops, lesson study sessions, and peer coaching to increase your teachers' pedagogical content knowledge. Support your teachers to apply their learning in their classrooms. Get tools for lesson planning, facilitating lesson study and coaching, as well as interactive software puzzles that engage all learners.

Erich Zeller, MIND Research Institute, Irvine, CA

Jennifer Shepard, Huntington Beach City School District, Huntington Beach, CA

8:45 - 9:45 AM CONT...

SESSION 317 **157 B**
STRAND 4 **MIDDLE (6 - 8)**

In Search of the Missing "C": How We Brought Creativity into Our Middle School Mathematics Classrooms

In this workshop we will share how we embedded creative experiences in our mathematics classrooms and, as a result, made a significant shift from fixed to growth-minded thinking. Participants will engage in activities to release their own creativity and learn how to design math classrooms that embody the tenets of 21st Century teaching and learning.

Karen Kennedy, UCLA, Los Angeles, CA

10:00 AM - 11:00 AM

MAJOR PRESENTATION

SESSION 318 **104 ABC**
STRAND 2 **GENERAL**

Irresistible Learning – Using Mobile Tools to Support Deeper Learning and Deeper Engagement for All Students

Margaret Honey, New York Hall of Science, Queens, NY

Presider: **Gwen Zimmerman**, NCSM Regional Director

How do we make mathematics learning irresistible to young people – particularly for those whose primary association with math is that it's boring? At the New York Hall of Science we believe that by leveraging young people's natural inclinations to play and create, digital tools can be designed to invite deeper learning and deeper engagement with mathematical concepts that students routinely struggle with. This presentation will focus on the use of mobile resources that we call Noticing Tools – digital learning apps that enable children to use the world as a laboratory, making meaningful mathematics discoveries in the context of highly engaging problems students find worth solving.

Dr. Margaret Honey joined the New York Hall of Science (NYSCI) as President and CEO in November of 2008. Under her leadership, NYSCI has adopted Design-Make-Play as its signature strategy to promote STEM engagement and learning. The defining characteristics of this sensibility – deep involvement with content, experimentation, exploration, problem-solving, collaboration and curiosity – are the very ingredients that develop inspired and passionate STEM learners.

Throughout her career, Dr. Honey has been widely recognized for her work using digital technologies to support children's learning across the disciplines of science, mathematics, engineering and technology. Prior to joining the New York Hall of Science, she was vice president of Wireless Generation, an education technology company. Earlier, she spent 15 years as vice president of the Education Development Center (EDC) and director of EDC's Center for Children and Technology.

A graduate of Hampshire College with a doctorate in developmental psychology from Columbia University, Margaret Honey has helped to shape the best thinking about learning and technology with special attention to traditionally underserved audiences.

Dr. Honey also serves a member of the National Science Foundation's Education and Human Resources Advisory Committee.

10:00 AM - 11:00 AM CONT...

SESSION 319 **103**
STRAND 4 **GENERAL**

Challenges and Strategies for Mathematics Leaders in Cross Curricular Initiatives-Modeling, Conjecturing, Reasoning

Participants interact with former NCSM presidents and peers to address this significant challenge and produce a wealth of ideas to benefit leaders at all levels. This session focuses on -1) what leaders can do to help teachers engage students to apply mathematics in other content areas; and -2) how leaders can support project-based learning.

Suzanne Mitchell, Arkansas State University, Jonesboro, AR

Carole Greenes, Arizona State University, Tempe, AZ

Linda Gojak, NCTM/John Carroll University, Reston, VA

SESSION 320 **105**
STRAND 4 **GENERAL**

Developing Fluency with Fractional Reasoning Through Number Talks

This session will explore the use of Number Talks as a vehicle to help mathematics leaders support and expand students' fractional reasoning and computational fluency. Number Talks will be examined through the lens of the CCSS Standards for Mathematical Practice. Classroom video will be used to analyze students' fractional reasoning.

Ann Dominick, University of Alabama at Birmingham, Birmingham, AL

Sherry Parrish, University of Alabama at Birmingham, Birmingham, AL

SESSION 321 **106**
STRAND 5 **ELEMENTARY (K-5)**

Number Strings: Leveraging Contexts and Models in a Strategic Thinking Routine for All Learners

Number strings are a daily computational routine (Fosnot & Dolk, 2002) in which the teacher poses a carefully crafted set of computational problems and represents student thinking using mathematical models. This session will also explore strategies to maximize engagement for all learners, including those with disabilities.

Rachel Lambert, Chapman University, Orange, CA

Dina Williams, LAUSD, Los Angeles, CA

Jennifer DiBrienza, YouCubed@Stanford, San Francisco, CA

SESSION 322 **107 A**
STRAND 2 **SECONDARY (6-12)**

Technologies and Tasks that Promote Mathematics from an Advanced Perspective

Technologies can provide environments for the mathematical practices, but they can also be used negatively to circumvent conceptual thinking. We describe the design decisions behind a set of technology-based mathematics tasks used with practicing secondary teachers and discuss the challenges that exist in enacting such tasks with students.

Samuel Otten, University of Missouri, Columbia, MO

Ji Yeong I, University of Missouri, Columbia, MO

SPOTLIGHT SPEAKER

SESSION 323 **107 BC**
STRAND 4 **GENERAL**

Questioning Strategies for Coaching and Teaching

Jennifer Bay-Williams, University of Louisville, Louisville, KY

Maggie McGatha, University of Louisville, Louisville, KY

Presider: **Jason Gauthier,** NCSM Fall Leadership Seminar Director

Mathematics coaches must be skilled at their own questioning as they work with teachers to examine their practices and coaches must help teachers become better questioners. Come explore specific strategies and skills on effective questioning, including a focus on questioning that focuses on the CCSS Mathematical Practices.

10:00 AM - 11:00 AM CONT...

SESSION 324 **156 A**
STRAND 4 **SECONDARY (6-12)**

Embedding Math Content Knowledge in Team and Teacher Development

Time to support teachers with their math knowledge and teaching knowledge seems impossible to find in most school schedules. This workshop will develop protocols and templates to embed math content knowledge in all types of team meetings, PD workshops, teacher collaboration, and teacher correspondence.

Matthew Taylor, New Visions for Public Schools, New York, NY

Michael Simone, New Visions for Public Schools, New York, NY

SESSION 325 **156 B**
STRAND 3 **MIDDLE (6 - 8)**

Effective Formative Assessment that Promote the Standards for Mathematical Practice

Effective formative assessment should support and improve student learning and instruction. This session will share examples of how middle school mathematics teachers implemented formative assessment effectively and engaged their students in the Standards for Mathematical Practice. Participants will create formative assessments for immediate use.

Jane Wilburne, Penn State Harrisburg, Middletown, PA

SESSION 326 **156 C**
STRAND 2 **GENERAL**

Integrating Mobile Technology into the Mathematics Classroom

The presentation will emphasize the use of mobile technologies for Communication, Collaboration, Creativity and Problem Solving in the Math classroom.Digital tools used in the mathematics classroom will be identified and a variety of other web-based tools will be demonstrated in problem-based environments for the teaching and learning of mathematics.

Gary Bitter, Arizona State University, Scottsdale, AZ

SESSION 327 **157 A**
STRAND 3 **SECONDARY (6-12)**

Mathematical Modeling with Strawberries and Videos

Come navigate the Digital Library and explore resources to complete a modeling problem. We will discover patterns and engage in problem solving without constraint, thus recreating modeling scenarios through real-life observations. Videos and problems can be used with educators to identify misconceptions and adapt pedagogy to the CCSS-M.

Sean Nank, American College of Education, Indianapolis, IN

SESSION 328 **157 C**
STRAND 1 **INTERMEDIATE (3 - 5)**

Way Cool! Teaching the Distributive Property Utilizing the Mathematical Practices

This session will examine ways to help students make sense of the distributive property using state-of-the-art free online tools. Learn how applying the Standards for Mathematical Practice and visual models facilitate fluency in single-digit multiplication to solving multi-digit multiplication problems using open arrays and the standard algorithm.

Mary Buck, Independant Consultant, Helena, MT

Lauri Susi, Conceptua Math, Petaluma, CA

SESSION 329 **151 AB**
STRAND 1 **ELEMENTARY (K - 5)**

Bridging the Gap with Number Talks: Continuing Productive Student Math Talk from the Elementary to Middle School Years

Productive Math Discourse is our entry point to the Mathematical Practices. In K-5 we've adopted Number Talks to utilize Talk Moves; having students drive the conversation. Bridging to grades 6-8 we ensure there is no gap. Building upon foundations set during elementary years, these teachers continue the process - ensuring students own the discussion.

Stephanie Callaway, Colonial School District, New Castle , DE

Crystal Lancour, Colonial School District, New Castle, DE

Erin Igo, Colonial School District, New Castle , DE

10:00 AM - 11:00 AM CONT...

SESSION 330 **152**
STRAND 1 **ELEMENTARY (K - 5)**

Living Outside the Box: Developing Solutions for Closing the Mathematics Achievement Gap

With current pressures to perform, districts are seeking solutions to improve achievement. What is needed is thinking and living outside of the box bringing new solutions to old problems. In this interactive session, participants will investigate a process that has been used to close the mathematics achievement gap at an award winning school.

Sandy Atkins, Creating AHAs, St. Petersburg, FL

SESSION 331 **153 A**
STRAND 4 **GENERAL**

Mathematics Education Trust: Grants/Scholarships, What and How to Apply

NCTM's Mathematics Education Trust (MET) supports teachers with funds for materials, development of lessons, conferences, courses, professional development,in-service,university pre-service and action research. Learn what's available and how to apply. Also hear tips for choosing the most appropriate award for you and enhancing your chances to win it.

Fern Tribbey, K-12 Mathematics Consultant, Northbrook, IL

Carol Edwards, Self-Employed, Chandler, AZ

PRESIDENTS EXCHANGE

SESSION 332 **153 B**
STRAND 4 **SECONDARY (6-12)**

Revisiting Geometric Constructions: Construct and Describe

Explore how paper-folding constructions with a description of the process (CD Problems) can engage students in making sense of geometric concepts, building their geometric vocabulary, and learning to precisely communicate their thinking. Participants will engage in several CD Problems and discuss connections to the mathematical practices.

Juliana Utley, Oklahoma State University, Stillwater, OK

SESSION 333 **153 C**
STRAND 4 **ELEMENTARY (K - 5)**

Making Sense of the K-5 OA Domain: Using the Progressions to Support Classroom Instruction

What did the authors of the common core mean when they wrote standards with language such as "use visual models", "fluency" or "make mathematical drawings". The Progressions documents were written to provide clarity and meaning to the standards. Come and learn how to use the Progressions documents as useful resources when implementing the CCSSM.

Beth Schefelkler, Milwaukee Public Schools, Milwaukee Public Schools, WI

Connie Laughlin, UW-Milwaukee, Milwaukee, WI

Melissa Hedges, UW-Milwaukee, Milwaukee, WI

SESSION 334 **157 B**
STRAND 1 **ELEMENTARY (K - 5)**

Great Modeling Task in 3 Acts for Elementary Meeting the Model with Mathematics Practice

NCSM released 8 Great Modeling Task in 3 Act at the 2014 conference. This year we are extending this resource to the elementary level. The Standard for Mathematical Practice: Model with Mathematics requires us as mathematics leaders to be creative in the ways we support teachers in their efforts to implement this practice.

Linda Griffith, NCSM S2 Regional Director, Conway, AR

11:15 AM - 12:15 PM

MAJOR PRESENTATION

SESSION 335 **104 ABC**
STRAND 4 **GENERAL**

Hey! What's the Big Idea?

Greg Tang, GregTangMath.com, Cambridge, MA

Presider: **Carol Matsumoto**, NCSM Regional Director

Is there a big idea that has the power to revolutionize our teaching and thinking? In this ambitious, thought-provoking session, we will consider a series of questions that will lead us closer to the answer. Is it better to be visual or have the ability to visualize? Is fluency the same as automaticity? Would you rather understand what you're doing or be fast at it? Is the goal to understand or generalize? Progression requires progress, but does progress require progression? Join Greg in his search for that one, big, beautiful, unifying insight that will help us make the real and lasting change our students and schools need. These are 60 mind-stretching minutes you won't want to miss!

Greg Tang is the NY Times best-selling author of a groundbreaking series of math picture books from Scholastic that includes The Grapes of Math. He's also the inventor of the internationally acclaimed math app Kakooma® and the creator of the popular, online math site GregTangMath.com.

Greg has been called the "math missionary" for the dedication and passion he has shown in sharing his love of math with students, teachers and parents. Since 2001, he has done more than 2,100 workshops, conferences and school visits and taught more than 300,000 children and adults.

Greg earned B.A. and M.A. degrees in Economics from Harvard and an M.A. degree in Math Education from New York University.

SESSION 336 **103**
STRAND 2 **INTERMEDIATE (3 - 5)**

Fraction Multiplication and Division Using Virtual Measurement Models

In this session we explore various web-based applets created to support conceptual understanding of fraction, multiplication, and division using spatial measurement models (length, area, volume). We will also discuss how these applets can be used in professional development or classroom settings with students. (Please bring a web-capable device.)

Eryn Stehr, Michigan State University, East Lansing, MI

V. Satyam, Michigan State University, East Lansing, MI

John Smith, Michigan State University, East Lansing, MI

Nicholas Gilbertson, Michigan State University, East Lansing, MI

SESSION 338 **106**
STRAND 1 **GENERAL**

Engaging Administrators: Putting the Pieces of the Common Core Puzzle Together to Support Teachers and Students

What does the implementation of the CCSS mean for school leaders? What do administrators need to know and understand in order to support the work of teachers and improve student achievement? In this session we will share a PD designed for administrators, lessons learned, and share participants' experiences.

Cynthia Callard, University of Rochester, Rochester, NY

Stephanie Martin, University of Rochester, Rochester, NY

Jane LaVoie, University of Rochester, Rochester, NY

SESSION 339 **107 A**
STRAND 5 **ELEMENTARY (K - 5)**

Supporting Teachers in Shifting Practices: One District's Multi-Layered Approach to Common Core Implementation

An emphasis on focus, rigor, and depth through teacher learning and support has impacted learning for all students. Reflecting on practices and deepening content knowledge have been essential in implementing the instructional shifts. Examine the cycles of professional development, unit planning, and mathematical routines that have made the CCSSM a reality.

Christine Roberts, Tulare County Office of Education-ERS, Visalia, CA

Vicky Armstrong, Dinuba Unified School District, Dinuba, CA

Sophia Burr, Dinuba Unified School District, Dinuba, CA

11:15 AM - 12:15 PM CONT...

SPOTLIGHT SPEAKER

SESSION 340 **107 BC**
STRAND 3 **GENERAL**

Ready, Feedback, Action: Going Beyond Checking for Understanding!

Tim Kanold, Consultant, Chicago, IL

Presider: **Dianne DeMille**, NCSM Conderence Coordinator

This motivational and inspiring session is based in part on teaching and learning mathematics as an effective professional learning community. We examine three high leverage research affirmed formative assessment strategies that shape the work of mathematics teachers beyond checking for understanding and into meaningful action!

SESSION 341 **156 A**
STRAND 4 **GENERAL**

Supporting an In-Depth Review and Understanding of Instructional Materials

Participants will gain hands-experience with a set of tools teachers and administrators can use during a materials review to examine the depth of content and practices intended in the CCSS. Participants will examine instructional pieces and assignments, and develop a common understanding of materials needed to support strong CCSS implementation.

Pamela Paek, Pamela Paek, West Lake Hills, TX

Harold Asturias, UC Berkeley, Berkeley, CA

Denise Walston, Council of the Great City Schools, Washington, DC

SESSION 342 **156 B**
STRAND 5 **MIDDLE (6 - 8)**

The Many Faces of Diagrams - Supporting Mathematical Reasoning and Communication for All Students

Mathematical diagrams are an important support for problem-solving and communication aligned with the Standards for Mathematical Practice for all students and for English learners in particular. Experience the variety of roles for diagrams in mathematical work, and discuss a framework that describes purposes for diagrams for use with teachers.

Johannah Nikula, Education Development Center, Waltham, MA

Mark Driscoll, Education Development Center, Waltham, MA

SESSION 343 **156 C**
STRAND 3 **SECONDARY (6-12)**

The Art of Questioning: Transforming Your Professional Learning Community

Dylan Wiliam suggests that the important work of teachers is planning formative assessment questions to determine whether to make instructional adjustments during a lesson. When we analyze student work collaboratively, we build a toolkit of questions. Practice teaming to develop push and probe questions together to strategically serve all learners.

Jennifer Wilson, Rankin County School District, Brandon, MS

Jill Gough, Trinity School, Atlanta, GA

SESSION 344 **157 A**
STRAND 1 **MIDDLE (6 - 8)**

Using Video and Storytelling to Illustrate Teaching with the Mathematical Practices

Are you looking for videos that show what a classroom can look and sound like when students are the ones doing the mathematical practices? Videos that illustrate how master teachers facilitate students to construct viable arguments or look for structure? This session presents an online video archive and accompanying professional development activities.

Max Ray, The Math Forum @ Drexel, Philadelphia, PA

SESSION 345 **157 C**
STRAND 4 **GENERAL**

The Long Term Work of Changing Adult Mindsets

Learn how to engage in the rewarding, long-term challenge of changing adult mindsets and changing organizational culture. Leaders will learn introductory moves that influence growth mindsets in adults, and tips for how to personally approach the work and sustain it over the extended time it takes to change culture,

Emily Diehl, Mindset Works, Walnut, CA

11:15 AM - 12:15 PM CONT...

SESSION 346 **151 AB**
STRAND 4 **GENERAL**

A Fast-Paced Program on Productive Solutions to Challenges Confronting Mathematics Leaders-Advocacy and Policy Support

Participants interact with former NCSM presidents and peers to address this significant challenge and produce a wealth of ideas to benefit leaders at all levels. This session addresses various leadership and advocacy models with particular attention on how to best support policy in developing better understanding of the Common Core Standards.

Henry Kepner, University of Wisconsin-Milwaukee, Milwaukee, WI

Tim Kanold, Consultant, Chicago, IL

Diane Briars, National Council of Teachers of Mathematics, Reston, VA

Steve Leinwand, American Institute for Research, Washington, DC

SESSION 347 **152**
STRAND 4 **SECONDARY (6-12)**

High School Coaching Model: Utilize a PLC Culture to Differentiate Professional Development

With the rigorous demands of the new standards and assessments, how can you create a differentiated coaching model in a high school district? This session explore the coaching model for an urban district to ensure continual learning for adult and students. Walk away with tools for creating learning progressions for collaborative teacher teams.

Mona Toncheff, NCSM W1 Regional Director, Phoenix, AZ

Kris Cunningham, PUHSD, Phoenix, AZ

SESSION 348 **153 A**
STRAND 1 **MIDDLE (6 - 8)**

The Ideal Math Class! Helping Teachers Engage Middle School Students in the Standards for Mathematical Practice

How can we get the Standards for Mathematical Practice to be habits of mind for all students? In this tiered professional development approach, participants will explore and gain resources and materials to support teachers in translating these mathematical practices into student actions integrated with mathematical content for everyday lessons.

Greta Richard, Howard County Public Schools, Laurel, MD

AnnMarie Varlotta, Howard County Public Schools, Ellicott City, MD

SESSION 349 **153 B**
STRAND 4 **GENERAL**

Leveraging University/School District Partnerships to Support Mathematics Learning for ALL

How can successful school district/university collaborations promote mathematics learning? In this interactive session, leaders will examine scenarios of typical problems they face in fostering mathematics learning for ALL and will explore how school district/university collaborations use tested, research-based strategies to solve them.

Anne Papakonstantinou, Rice University, Houston, TX

Richard Parr, Rice University, Houston, TX

SESSION 350 **153 C**
STRAND 4 **ELEMENTARY (K - 5)**

Partnering to Improve Mathematics Instruction Through Learning Walks

Learn how the mathematics department in a large suburban district uses a team approach to classroom observations, empowering principals to improve mathematics teaching and learning. These learning walks help principals gain a realistic picture of current classroom instructional practices and inform next steps for professional development.

Kimberly Bender, Chesterfield County Public Schools, Richmond, VA

Kathryn Munson, Chesterfield County Public Schools, Richmond, VA

Karen Watkins, Chesterfield County Public Schools, Richmond, VA

SPONSOR SHOWCASE

SESSION 350.5 **157 B**
STRAND 3 **GENERAL**

Using Questioning Strategies and Dry Erase Boards to Enhance Formative Assessment Practices and to Increase Rigor: Incr

Dan Wilson, The Marker Board People, Lansing, MI

Presider: **Donna Knoell**, Educational Consultant and Author, Shawnee Mission, KS

Presenters will model effective questioning strategies and exemplary techniques using dry erase boards, to increase student engagement and achievement. Attendees will be actively engaged in problem solving and ways to build increased understanding of essential mathematics concepts, while increasing rigor and engagement. Attendees will receive dry erase boards and more!

WEDNESDAY LUNCHEON

12:30 PM - 2:00 PM

SESSION 351
STRAND 5

TICKET REQUIRED

EXHIBIT HALL B1 NW
GENERAL

Digital Pedagogy and Learning Design

Shawn Mahoney, McGraw-Hill School Education, Columbus , OH

Peter Cipkowski, Think Through Math, Pittsburgh, PA

This session will provide participants with a framework for learning design, including key principles of research and digital pedagogy as well as definitions for essential constructs such as personalization, adaptivity, and efficacy.

Dr. Shawn Mahoney is the Chief Academic Officer for McGraw-Hill School Education, responsible for PreK-12 Product Development and Design. In her current role as the Chief Academic Officer, Dr. Mahoney and her team are focused on the academic design and academic integrity for awesome learning experiences, including the strategy for learning outcomes within the McGraw-Hill School Education digital learning ecosystem. Prior to joining McGraw-Hill Education, Dr. Mahoney was the VP, of School Product Design Research and Efficacy at Pearson where she was responsible for the research and efficacy lifecycle for all K-12 instructional solutions and learning services across the globe. She was the co-founder of the iDEA Innovation Center. She and her team partnered with teachers, schools, and districts to design studies and collect evidence necessary to improve outcomes and assess the impact of instructional systems.

Peter Cipkowski is TTM's VP of Education, Peter combines a commitment to the advancement of excellence in education, an enthusiasm for pragmatic technology-based instructional solutions, and an understanding of the complex challenges faced by educators throughout the United States. With roots as a Special Education teacher, Peter provides a valuable depth of leadership experience that includes leading educational partnerships, delivering education solutions, setting technology strategies, building agile teams, managing change, launching new products, and developing markets. He brings more than 15 years of success overseeing groundbreaking product development, collaborative product management, and strategic partnership initiatives in educational technology. He is also the author of two books for young adults, both published by John Wiley. Peter earned his Bachelor's degree from Bard College and a Master's of Arts from Carnegie Mellon University.

Co-Sponsored by McGraw Hill

McGraw-Hill Education is the digital learning experiences company intent on changing the world of education. Drawing on its rich heritage of educational expertise, the company offers highly personalized learning experiences that improve learning outcomes around the world. The Company has offices across North America, India, China, Europe, the Middle East and South America, and makes its learning solutions available in more than 60 languages. For more information, please visit mheducation.com or find us on Facebook (facebook.com/mcgrawhilleducation)or Twitter(@MHEducation).

Co-Sponsored by Think Through Math

Think Through Learning is a company of passionate and committed U.S. math teachers, software engineers and educational innovators whose mission is to help teach kids how to think mathematically. At Think Through Learning, we know that success in mathematics transforms the way students perform in school and beyond. As teachers and technologists, we are driven to innovate and use learning science to instruct and motivate students in unprecedented ways. Our vision of effective education: a motivating blend of adaptive web-based instruction on higher order thinking skills supported with online "instant 1:1 interventions" from LIVE, state-certified U.S. math teachers WHEREVER a student is and at the EXACT moment they need help. In 2014, over 2.8 million students using Think Through Math will do approximately one billion complex math problems and receive millions of live tutoring sessions. The 2014 and 2012 recipient of the SIIA CODiE Award for Best Mathematics Instructional Solution, Think Through Math is already recognized as the industry's most respected and fastest-growing supplemental math curriculum. Since its launch in 2012, Think Through Math has become a critical part of the RTI, STEM, and 1:1 strategies of thousands of districts and schools across the country, including some of the largest districts in the United States.

2:15 PM - 3:15 PM

MAJOR PRESENTATION

SESSION 352 **104 ABC**
STRAND 5 **SECONDARY (6-12)**

Access, Equity, and the Standards for Mathematical Practice

Kyndall Brown, UCLA, Los Angeles, CA

Presider: **Comfort Akwaji-Anderson**, NCSM Regional Director

The NCSM PRIME Leadership Framework calls on mathematics education leaders to ensure high expectations for each student, provide strong intervention and support for each student, and orchestrate continuous improvement of achievement for each student." However, we continue to see huge disparities in academic outcomes for students of color, English learners, students with disabilities, and students from low-income communities. This presentation will explore how the Standards for Mathematical Practice, if implemented with fidelity, have the potential to improve academic outcomes for students who have been traditionally unsuccessful in mathematics.

Kyndall Brown over 29 years of experience in mathematics education. He was a secondary mathematics teacher in LAUSD for 13 years, teaching at both the middle and high school levels. He has been a professional development provider for the past 20 years, serving as a mathematics resource teacher for the Los Angeles Systemic Initiative in LAUSD, and as mathematics teacher consultant for and director of the UCLA Mathematics Project (UCLAMP). He is currently the executive director of the California Mathematics Project.

Kyndall Brown holds a bachelor's degree in mathematics from UC Irvine, masters degrees in computer-based education and mathematics education from CSU Dominguez Hills, and a Ph.D. from UCLA's Graduate School of Education and Information Studies. He also has a single subject credential to teach mathematics in the state of California.

Kyndall Brown regularly presents at local, state, and national conferences on various topics related to mathematics education. He has written articles for mathematics education publications and is a coauthor of an article in the second edition of the Handbook of Research in Mathematics Education. His dissertation research focuses on the impact of culture and identity on the ways that African-American male adolescents learn mathematics.

SESSION 353 **103**
STRAND 5 **GENERAL**

Our Students, Our Teachers, Our San Francisco Common Core Implementation Plan

How does a large district grapple with issues of scale? San Francisco has chosen high leverage actions: curriculum built around rich mathematics tasks and signature pedagogies that build discourse. Our plan empowers teacher leaders to take their learning back to their sites. Hear our inquiry process around impacting outcomes for all 56,000 students.

Emma Trevino, SFUSD Division of Curriculum and Instruction, Hayward, CA

Lizzy Hull Barnes, SFUSD Division of Curriculum and Instruction, STEM Math Department, San Francisco, CA

SESSION 354 **105**
STRAND 5 **ELEMENTARY (K - 5)**

Building Language Capacity for Access and Higher Levels of Communication in Mathematics

The CCSS have rigorous demands for the use of language for abstract reasoning. With an emphasis on all students, this session will address ways to build academic language, with examples of language development activities that build on and go beyond vocabulary development. We will also address ways to build the language capacity of ELLs.

Ava Belisle-Chatterjee, Columbia College Chicago and the University of Chicago, CEMSE, Chicago, IL

Alison Whittington, University of Chicago, CEMSE, Chicago, IL

Barbara Molina, University of Chicago, CEMSE, Chicago, IL

SESSION 355 **106**
STRAND 4 **GENERAL**

Teacher "Buy-In" and Its Relation to Professional Development

Teacher buy-in to a professional development program is essential to their motivation to engage. Our research study identified several factors affecting teacher buy-in. These include: teachers perceiving the program as treating them as a professional as well as being authentic, doable, and relevant to what they are already doing.

Eva Thanheiser, Portland State University, Portland, OR

Kate Melhuish, Portland State University, Portland, OR

Linda Foreman, Teachers Development Group, West Linn, OR

Mike Shaugnessy, Teachers Development Group, West Linn, OR

2:15 PM - 3:15 PM CONT...

SESSION 356 **107 A**
STRAND 4 **SECONDARY (6-12)**

Teaching High School Algebra: A What Works Clearinghouse Practice Guide

Developed by an expert panel of researchers and educators, this What Works Clearinghouse practice guide provides practical, research-based instructional guidance on teaching algebra to students in grades 6--12. The presentation summarizes three core recommendations, presents examples to use in class, and identifies solutions to common challenges.

Jane Porath, Traverse City Area Public Schools, Traverse City, MI

SPOTLIGHT SPEAKER

SESSION 357 **107 BC**
STRAND 1 **GENERAL**

The Right Kind of Struggling: Helping All Students Become Mathematical Thinkers

Cathy Seeley, Charles A. Dana Center, University of Texas (retired), Austin, TX

Presider: **Cynthia Schneider**, NCSM Conference Coordinator, 2016, 2017

Having students struggle is one of teachers' biggest challenges in implementing the mathematical thinking described as practices and processes. Yet engaging in constructive struggles is essential to learning. How can we help teachers get past their fear of students giving up and build student learning on working productively through struggling?

SESSION 358 **156 A**
STRAND 1 **MIDDLE (6 - 8)**

What Mathematics Specialists and Coaches Know About Rational Numbers and How to Teach Them What They Don't Know

What do K-8 mathematics specialists and coaches know about rational numbers and proportional reasoning? What they should know? How can you foster the complex and sophisticated ways of thinking about rational numbers needed to successfully serve as a mathematics specialist or coach? Research-based activities with manipulatives are included.

Marguerite Mason, The College of William and Mary, Williamsburg, VA

Sara Moore, ETA hand2mind, Vernon Hills, IL

Eric Shippee, The College of William and Mary, Williamsburg, VA

SESSION 359 **156 B**
STRAND 4 **ELEMENTARY (K - 5)**

Sustaining Professional Development: Beyond One and Done

This session will describe a professional development program focused on supporting productive mathematics discourse in early elementary grades. It will emphasize PD design features that promote sustainability and supportive school culture. Participants will discuss PD artifacts, e.g., video excerpts and transcripts of teacher planning sessions.

Judy Storeygard, TERC, Cambridge, MA

Kristen Malzahn, Horizon Research, Inc., Chapel Hill, NC

SESSION 360 **156 C**
STRAND 1 **INTERMEDIATE (3 - 5)**

Modeling with Manipulatives: Helping Teachers Implement the Mathematics Practices

Manipulatives have been the mainstay of elementary math instruction and the mathematics practices have generated a new discussion about ways to maximize their effectiveness. Participants will learn methods to help teachers revise lessons that strengthen student understanding of fractions by constructing mathematical models with manipulatives.

Anne Nesbitt, Westport Public Schools, Westport, CT

Stephanie Schock, Westport Public Schools, Westport, CT

Kerin Tighe, Westport Public Schools, Westport, CT

SESSION 361 **157 A**
STRAND 1 **HIGH SCHOOL (9 - 12)**

Statewide Initiative to Promote Systemic Change in the Era of the CCSS: Building Structures to Routinize The Practices

This session supports math leaders in considering ways to build sustainable structures that promote problem-centered learning and routinizing the CCSS Math Practices. Members of a state mathematics coalition will engage participants in problem-solving challenges related to supporting a large-scale adoption of PB learning and the actualization of the CCSS.

Jamila Riser, Delaware Mathematics Coalition, Dover, DE

Jodi Albers, Red Clay School District, Wilmington, DE

Martin Rayala, Design-Lab High School, Philadelphia, PA

Renee Parsley, Delaware Department of ED, Dover, DE

2:15 PM - 3:15 PM CONT...

SESSION 362 **157 C**
STRAND 4 **ELEMENTARY (K - 5)**

Creating Mathematics Apprenticeships for New Teachers

In this session, we discuss how to develop mathematics apprenticeships that pair in-service teachers with pre-service and/or new teachers for professional development. Participants will learn how to create math tasks that engage adult learners and how to facilitate analyses of written case studies and videos of students working on similar ideas.

Michael Flynn, Mount Holyoke College, South Hadley, MA

SESSION 363 **151 AB**
STRAND 3 **HIGH SCHOOL (9 - 12)**

Rich Mathematical Tasks as Formative Assessment

Effective mathematics teaching is more than teaching procedures - students must have opportunities to grapple with and make sense of rich mathematics. In this workshop we will explore the use of rich math tasks and collaborative inquiry as part of developing teachers' formative assessment practices.

David Wees, New Visions for Public Schools, Manhattan, NY

SESSION 364 **152**
STRAND 1 **HIGH SCHOOL (9 - 12)**

Connecting Progression and Practices with High Quality Tasks

"Principles to Actions" outlines 8 Teaching Practices that promote quality mathematics instruction. These teaching practices facilitate the realization of Standards for Mathematical Practice. Come participate in a learning progression of tasks that connect both the teaching practices and the Standards for Mathematical Practice. All tasks are free!

Travis Lemon, Mathematics Vision Project, Murray, UT

SESSION 365 **153 A**
STRAND 4 **GENERAL**

Studio Days - Deprivatizing Our Practice to Improve Instruction

During Studio Days educators collectively observe and debrief a lesson, focusing on the Standards for Mathematical Practice in real-time, increasing the level/quality of implementation; developing shared images and understandings while deepening teachers' mathematical content knowledge for teaching and fostering new norms and habits-of-practice.

Patty Lofgren, Mathematics Education Collaborative, Ferndale, WA

PRESIDENTS EXCHANGE

SESSION 366 **153 B**
STRAND 2 **COLLEGE**

How to Engage Students in an e-Learning Environment

What can be done to ensure that students are properly engaged in their learning when taking an online class? This instructor will share tools and techniques that she has used to help students learn and make sense of mathematical ideas, reason mathematically, and communicate their mathematical thinking.

Nancy Sattler, Terra Community College, Fremont, OH

SESSION 367 **153 C**
STRAND 1 **INTERMEDIATE (3 - 5)**

Reflecting the Light of Learning Through the Mathematical Practices: Finding the GOLD within the MPs

How can you prepare today's students for the challenges and complexities of tomorrow's world? Shining a light on the higher order thinking skills so elegantly embodied within the Standards for Mathematical Practice will help. Come and uncover MPs GOLD through a framework that identifies prominent components and the ties that bind them.

Christine Moynihan, Independent Consultant, Holliston, MA

Debra Shein-Gerson, Maimonides School, Brookline, MA

3:30 PM - 4:30 PM

MAJOR PRESENTATION

SESSION 368 — 104 ABC
STRAND 3 — GENERAL

Sustaining the Development of Classroom Formative Assessment with Teacher Learning Communities

Dylan Wiliam, Institute of Education, University of London, London, GB

Presider: **Bill Barnes**, NCSM Regional Director

While there is solid evidence that integrating minute-to-minute and day-by-day formative assessment into regular classroom instruction improves student achievement, there is much less evidence on how teachers can be supported to develop their practice in this way—changing what teachers do when students are present is much harder than changing what teachers do when they are not. In this presentation, Dylan Wiliam will summarize the results of a ten-year research and development program—involving thousands of teachers in hundreds of schools—showing how building-based teacher learning communities can support educators to harness the power of formative assessment to improve instruction.

Dylan Wiliam is Emeritus Professor of Educational Assessment at the Institute of Education, University of London.

After a first degree in mathematics and physics, and one year teaching in a private school, he taught in urban schools for seven years, during which time he earned further degrees in mathematics and mathematics education.

In 1984 he joined Chelsea College, University of London, which later became part of King's College London. During this time he worked on developing innovative assessment schemes in mathematics before taking over the leadership of the mathematics teacher education program at King's.

After his return to King's, he completed his PhD, addressing some of the technical issues thrown up by the adoption of a system of age-independent criterion-referenced levels of attainment in the national curriculum of England and Wales.

His recent work has focused on the use of assessment to support learning (sometimes called formative assessment). He was the co-author, with Paul Black of a major review of the research evidence on formative assessment published and since then has worked with groups of teachers all over the world on developing formative assessment practices.

SPOTLIGHT SPEAKER

SESSION 369 — 107 BC
STRAND 1 — GENERAL

Supporting Five Essential Instructional Shifts for Transforming K-12 Common Core Math Classrooms

Juli Dixon, University of Central Florida, Orlando, FL

Presider: **Beverly Kimes**, NCSM 2nd Vice President

Explore five essential K-12 instructional shifts that emphasize the mathematical practices and the content they support. Engage with elementary, middle, and high school tasks and how to support them during professional development. Enhance your understanding of the shifts through authentic video in elementary, middle, and high school classrooms.

SPECIAL INTEREST GROUP

SESSION 370 — 156 A
STRAND 4 — GENERAL

International Perspectives on Supporting Mathematics Teaching and Learning

What can U.S. mathematics leaders learn from educators in other countries? What do educational leaders in the U.S. have to offer other countries? These are questions explored by the U.S. National Commission on Math Instruction. This session will introduce members of NCSM to the work of USNCMI and share key findings and insights from its activities.

Janine Remillard, University of Pennsylvania, Philadelphia, PA

Gail Burrill, Michigan State University, East Lansing, MI

Padmanabhan Seshaiyer, George Mason University, Fairfax, VA

3:30 PM - 4:30 PM CONT...

SPECIAL INTEREST GROUP

SESSION 372 **157 A**
STRAND 3 **GENERAL**

Online Collaborative Technology (Social Media) in the Mathematics Classroom - Moving Forward

New Internet-based communication technologies have led to unparalleled opportunity for students, teachers, teacher-educators, even administrators to share knowledge, ask for collaboration, highlight best practices and more.

Ihor Charischak, CLIME, White Plains, NY

David Weksler, consultant, Tenafly, NJ

SESSION 373 **151 AB**
STRAND 4 **GENERAL**

Ignite! We'll Enlighten You and We'll Make It Quick

Join us for fast, informative, and fun talks where mathematics educators light up the room with fresh ideas in mathematics teaching and learning. Each speaker gets 5 minutes to talk about whatever ignites their passion, using 20 slides that auto-advance every 15 seconds, whether they are ready or not. This year our speakers will be Jim Dooley, Annie Fetter, Norma Gordon, Grace Kelemanik, Chris Luzniak, Jasmine Yin-Ying Ma, Carl Oliver, Laurel Pollard, Max Ray, John Staley, and our emcee, Suzanne Mitchell.

Suzanne Alejandre, The Math Forum @ Drexel, Philadelphia, PA

SPECIAL INTEREST GROUP

SESSION 374 **153 B**
STRAND 4 **GENERAL**

Mathematics Teaching and Learning: What's Happening in AMTE and How Can AMTE Support Your Work with Teachers?

The Association of Mathematics Teachers Educators' (AMTE) focus is on improvement of mathematics teacher education across the professional continuum (pre-service and in-service). Join us to learn more how AMTE can support mathematics learning; discussion will focus on AMTE resources, including formative assessment and the AMTE Webinar Series.

Tim Hendrix, Meredith College/AMTE, Raleigh, NC

Christine Thomas, Georgia State University/ AMTE, Atlanta, GA

Fran Arbaugh, Penn State University/ AMTE, University Park, PA

3:30 PM - 5:00 PM

SPECIAL INTEREST GROUP

SESSION 371 **156 C**
STRAND 5 **GENERAL**

TODOS: Mathematics for ALL- Focusing on the Mathematics Education of Latina/o Students and Other Underrepresented Groups

TODOS members and others interested in equity and excellence in mathematics education for ALL students are invited to attend this TODOS annual meeting. We will review accomplishments, recognize sponsors/outgoing Board/committee members, present the Iris Carl Award, present student awards, and gather input to move TODOS forward in STEM education.

Susie Hakansson, TODOS: Mathematics for ALL, Tempe, AZ

NOTES

ABOUT NCSM

All conference sessions and events are located at the Boston Convention and Exhibit Center. Be sure to check listings and conference maps at the end of this booklet to locate rooms.

NCSM Logo Mission and Vision
Four-plus Decades of NCSM Presidents
NCSM Board Members: 2014–2015 and 2015–2016
NCSM Professional Services
Annual Conference Planning Committee: 2015 and 2016
NCSM Member and Conference Services
Requests for Nominations: 2016
NCSM Board Positions – Deadline: May 15, 2015
NCSM Committees
Awards, Grants, and Certificates
NCSM Affiliates
Requests for Speaker Proposals: 2016 Annual Conference – Deadline: June 1, 2015
Future NCSM Conferences and Events
NCSM Publications

Use the Conference Planner at the end of this book to outline your daily schedule.

Wear your NCSM Conference Name Badge to gain entrance to sessions, ticketed events, and the sponsor display area.

Please obey Fire Code standards in sessions—No standing; no sitting on the floor; no moving of chairs from one room to another.

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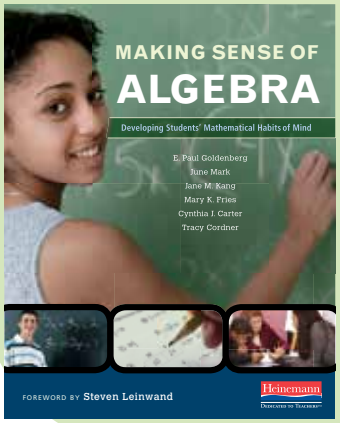
Transition to Algebra is a classroom resource that approaches algebra instruction differently. Instead of reteaching the same algebra curriculum in the same way to struggling students, *Transition to Algebra* uses logic puzzles, problems, and explorations to uniquely build essential algebraic understanding. It invites students to experience the clarity of mathematics—perhaps for the first time.

Visit TransitiontoAlgebra.com for samples, resources, and video clips

"Building strong mathematical habits of mind in students is a way of bringing coherence and meaning to mathematics. Students learn that they can use their experiences to build habits—ways of thinking about and approaching problems." —E. Paul Goldenberg, June Mark, Jane M. Kang, Mary K. Fries, Cynthia J. Carter, and Tracy Cordner



Making Sense of Algebra debunks the common misconception that algebra is simply a collection of rules to know and follow by delving into how we think about mathematics. This "habits of mind" approach is concerned not just with the results of mathematical thinking, but with how mathematically proficient students do that thinking.

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48TH NCSM ANNUAL CONFERENCE • APRIL 11–13, 2016 • SAN FRANCISCO BAY AREA

Building Bridges Between Leadership and Learning Mathematics: Leveraging Education Innovation and Research to Inspire and Engage

The 2016 NCSM Annual Conference will provide sessions that enhance our work as mathematics leaders to support teachers so that all students have access to a high quality mathematics program. The five stands for the 2016 NCSM Annual Conference—Leadership, Coaching, the Digital Age, Research, and Social Justice—represent areas of interest to a large number of our members. We invite proposals that focus on the following conference strands.

- **Cultivating Leadership In a Time of Change**
  Presentations in this strand will focus on leader actions and thought processes that help improve teaching and learning at the building, district, region and state/province levels.
- **Coaching That Matters**
  Presentations in this strand will focus on the coach's role in supporting all aspects of the teaching and learning of mathematics.
- **Advancing the Social Justice Conversation**
  Presentations in this strand will focus on the unique interactions of mathematics education and student learners within their racial, cultural, linguistic, and socioeconomic communities.
- **Enhancing Mathematics Education in the Digital Age**
  Presentations in this strand will focus on technological innovations that promote deep student learning of mathematical concepts as well as models of professional learning experiences that take advantage of the affordances of technology.
- **Sharing Research that Informs Mathematics Education**
  Presentations in this strand will focus on research found to impact practice in the mathematics classroom and in professional learning for teachers.

SPEAKER PROPOSALS:
Deadline for speaker proposals: **June 1, 2015**
Proposals must be submitted online at:
mathedleadership.org

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REQUEST FOR NOMINATIONS

2016 NCSM BOARD POSITIONS

The following positions are open for the 2016 Board:

- President Elect
- Second Vice President
- Regional Director, Central 1 (Illinois, Indiana, Kentucky, Michigan, Ohio)
- Regional Director, Eastern 1 (Connecticut, Maine, Massachusetts, Military AE: APO/FPO, New Hampshire, New York, Rhode Island, Vermont)
- Regional Director, Southern 2 (Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas)

Visit *www.mathedleadership.org* for details about the positions, the nomination procedure, and the nomination form. The deadline for nominations for the *NCSM* Board positions is Friday, May 15, 2015.

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The NCSM Iris Carl Mathematics Leadership Fund endows up to three travel grants per year to NCSM members who have not attended an NCSM conference for the past three years. The fund is supported by generous donations from individuals. To support the fund, you may mail a check in any amount payable to:

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Information about the Iris Carl Grant for Travel and an application form are available on the NCSM Website, *www.mathedleadership.org*.

The deadline for nominations for the 2016 Iris Carl Grant is December 1, 2015.

ROSS TAYLOR/GLENN GILBERT NATIONAL LEADERSHIP AWARD

Nominations are open for the 2016 Ross Taylor/Glenn Gilbert National Leadership Award. Any member of NCSM may submit a nomination.

The Ross Taylor/Glenn Gilbert National Leadership Award annually recognizes an individual who has demonstrated leadership in, and has made outstanding, unique, and dedicated contributions to the field of mathematics education. Award criteria and nomination procedures are available at mathedleadership.org. The deadline for nominations for the 2016 Award is November 1, 2015.

KAY GILLILAND EQUITY LECTURE SERIES AWARD

Nominations are open for the 2016 Kay Gilliland Equity Lecture Series. Any member of NCSM may submit a nomination.

This award is given annually to an outstanding mathematics educator who has made a significant and lasting contribution to the cause of promoting equity achievement in mathematics education. The lecture series serves to acknowledge and honor Kay Gilliland's service to NCSM and to promote the cause of equity in mathematics education in perpetuity.

Award criteria and nomination procedures are available at mathedleadership.org. The deadline for nominations for the 2016 Award is October 1, 2015.

MATHEMATICS STUDENT RECOGNITION AWARD

The Mathematics Student Recognition Program was created to provide a means for honoring outstanding students who excel in the study of mathematics. All public, parochial, and private schools, colleges, and universities that have at least one NCSM member in the area are eligible to participate. The number of awards should not exceed two per year per graduating class or grade level. Award certificates are available at Conference Registration Area or may be ordered from NCSM Office, 6000 E. Evans Ave. Ste. 3-205, Denver, CO 80222, (303) 758-9611, *office@ mathedleadership.org*. More information about the Student Recognition Awards is available at *www.mathedleadership.org*.

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Cheryl Avalos, 2014–2015 NCSM Affiliate Coordinator
Hacienda Heights, CA

Central 1:	Michigan Council of Teachers of Mathematics (MCTM) Michigan Mathematics Consultants and Coordinators (M^2C^2)
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Canada:	Ontario Mathematics Coordinators Association (OMCA)
National:	Council of Presidential Awardees in Mathematics (CPAM)

Join us during the conference to connect with your local affiliate, share your affiliate's activities, or learn how to organize an affiliate.

- Look for the Membership Information Table in the Registration/Sponsor Display Area: Applications available for NCSM Affiliation.
- Acknowledge our affiliates at the Tuesday, April 14 Luncheon.
- Attend the Business Meeting – Tuesday, April 14 at 4:30–5:15 PM in 151 AB of the Boston Convention and Business Center. The newest affiliates will be receiving their charter.

If your mathematics organization is interested in organizing an affiliate in your area, Contact the 2015-2016 NCSM Affiliate Coordinator, Carol Matsumoto (cmat1@mymts.net). You can also find helpful information and application forms in the ***Affiliates*** section (under ***Membership***) of the NCSM Website at *www.mathedleadership.org*.

REQUEST FOR SPEAKER PROPOSALS

48TH NCSM ANNUAL CONFERENCE
SAN FRANCISCO BAY AREA
APRIL 11-13, 2016

Building Bridges Between Leadership and Learning Mathematics: Leveraging Education Innovation and Research to Inspire and Engage

The 2016 NCSM Annual Conference will provide sessions that enhance our work as mathematics leaders to support teachers so that all students have access to a high-quality mathematics program. The five stands for the 2016 NCSM Annual Conference — Leadership, Coaching, the Digital Age, Research, and Social Justice — represent areas of interest to a large number of our members. We invite proposals that focus on the following conference strands.

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Strands

1. **Cultivating Leadership in a Time of Change**
   Presentations in this strand will focus on leader actions and thought processes that help improve teaching and learning at the building, district, region and state/province levels.

2. **Coaching That Matters**
   Presentations in this strand will focus on the coach's role in supporting all aspects of the teaching and learning of mathematics.

3. **Advancing the Social Justice Conversation**
   Presentations in this strand will focus on the unique interactions of mathematics education and student learners within their racial, cultural, linguistic, and socioeconomic communities.

4. **Enhancing Mathematics Education in the Digital Age**
   Presentations in this strand will focus on technological innovations that promote deep student learning of mathematical concepts as well as models of professional learning experiences that take advantage of the affordances of technology.

5. **Sharing Research That Informs Mathematics Education**
   Presentations in this strand will focus on research found to impact practice in the mathematics classroom and in professional learning for teachers.

Speaker Proposals:
Deadline for speaker proposals: June 1, 2015
Proposals must be submitted online at:
mathedleadership.org

Beverly Kimes,
2016 NCSM Annual Conference Program Chair

NCSM Journal of Mathematics Education Leadership

The purpose of the *Journal of Mathematics Education Leadership* is to advance the mission and vision of the National Council of Supervisors of Mathematics by disseminating knowledge related to research, issues, trends, programs, policy, and practice in mathematics education and relevant to leaders in mathematics education.

In addition, the journal aims to foster inquiry into key challenges of mathematics education leadership, raise awareness about key challenges of mathematics education leadership, and engage the attention and support of other education stakeholders in order to broaden as well as strengthen mathematics education leadership. Manuscripts should fit within one or more of the following categories.

- Key topics in leadership and leadership development
- Case studies of mathematics education leadership work in schools and districts or at the state level and the lessons learned from this work
- Reflections on what it means to be a mathematics education leader and what it means to strengthen one's leadership practice
- Research reports with implications for mathematics education leaders
- Professional development efforts including how these efforts are situated in the larger context of professional development and implications for leadership practice

Across each of these categories, evidence of the impact of the work is expected along with connections to the existing knowledge base. In addition, manuscripts should be consistent with the *NCTM Principles and Standards* and should be relevant to *NCSM* members. In particular, manuscripts should make clear to mathematics leaders the implications of its content for their leadership practice.

The *JMEL* uses a double-blind review process. Manuscripts are reviewed by at least two volunteer reviewers and a member of the editorial panel. Reviewers are chosen on the basis of their expertise related to the content of the manuscript and are asked to evaluate the merits of the manuscripts according to the guidelines listed above.

Manuscripts should be formatted according to the guidelines of the *Publication Manual of the American Psychological Association* (6th edition).

Manuscripts should be submitted via e-mail to *ncsmJMEL@mathedleadership.org*. Submissions should include:
- A word file with the body of the manuscript without any author identification;
- A word file with author information; and
- An abstract of no more than 300 words.

Manuscripts may be submitted at any time, although deadlines of January 1st and July 1st are established to support timely review and publication.

Angela T. Barlow, Editor

IMPORTANT FUTURE NCSM DATES

48th NCSM Annual Conference
April 11–13, 2016 San Francisco Bay Area, California

FUTURE NCSM FALL LEADERSHIP SEMINARS

Atlantic City, New Jersey October 21, 2015
Minneapolis, Minnesota November 11, 2015
Nashville, Tennessee November 18, 2015

ANNUAL NCSM SUMMER LEADERSHIP ACADEMY
Mathematics Leadership in a Time of Change: Building Leaders at all Levels

Dates and location: visit *www.mathedleadership.org* for more details.

NCSM NEWSLETTER

The *NCSM Newsletter* promotes networking and collaboration among NCSM members and other stakeholders in the education community and welcomes submissions from members. The purpose of the *NCSM Newsletter* is to advance the mission and vision of NCSM by informing the membership of the ongoing activities of the NCSM Board and by publishing current information about issues, trends, programs, policy, and practices in mathematics education.

The *NCSM Newsletter* is published four times a year – fall, winter, spring, and summer – in addition to being physically mailed to all NCSM members, access to all issues is available on our website. You will be prompted to log in with your membership information when clicking on an issue.

Deadlines for Submissions
Fall 2015 *NCSM Newsletter* – July 5, 2015
Winter 2015-2016 *NCSM Newsletter* – September 5, 2015
Spring 2016 *NCSM* Newsletter – December 5, 2015
Summer 2016 *NCSM* Newsletter – March 5, 2016
Please visit *mathedleadership.org* for more information and submission procedures

NCSM eNEWS

The *eNEWS* is delivered five times a year and serves as timely information regarding NCSM happenings and future events. The dates for *eNEWS* are August 31, November 15, January 31, March 31, and May 31.

NCSM Webinars

Visit *http://www.mathedleadership.org/events/webinars.html* for future Webinar topics and dates. Previous Webinars are available at this link to view any time after they have posted.

NCSM Events Archive

We have handouts, PowerPoints materials, etc. from conferences, leadership academies, and fall seminars on our website at: *http://www.mathedleadership.org/events/conferences/index.html.* You may want to refer to this section to support your leadership work.

NCSM COMMON CORE STATE STANDARDS

We have implementation materials and resources for implementation of the *Common Core State Standards* at: *http://www.mathedleadership.org/ccss/index.html.*

- ***NCSM Illustrating the Standards for Mathematical Practice***
- ***NCSM Great Tasks for Mathematics***
- NCSM Common Core Presentations and Webinars
- Assessment Consortia
- Mathematics Common Core Coalition
- ***Mathematics Assessment Project (MAP/Shell Centre)***
- Inside Mathematics
- CCSS Curriculum Materials Analysis Tools

NCSM "Get Connected" through Social Media

Whether you are a newbie to technology, or one who could not teach, work, or live without it, sooner or later you may find yourself participating in one or more online social networks. There are many web tools and web sites that allow mathematics education leaders to connect, share and collaborate with one another. These tools are part of the Internet's social networking landscape, and provide a means for leaders to build and maintain communities of practice. In an effort to harness the power of these collaborative opportunities to help connect its membership with rich conversations, NCSM is now subscribed to several social networking tools.

Find links for these conversations by clicking on the "Get Connected" tab on our website at *http://www.mathedleadership.org/networks/index.html*

POSITION PAPER

The NCSM Board proudly offers our membership the *Improving Student Achievement Position Paper* series that can be found at *http://www.mathedleadership.org/resources/position.html.* We hope these papers are informative, supportive and challenging as our members lead efforts in their local districts to improve student achievement in mathematics.

The process of developing research-informed leadership *Position Papers* on issues critical to the future of mathematics education began in the summer of 2006. Past President, Steven Leinwand, strongly recommended that the Board provide a long-term series of practical, research-informed *Position Papers* as part of the NCSM's strategic plan. During his presidency, Tim Kanold pursued the initiative and created the following format for all position papers:

- The stated Position of
- A summary of research that supports the Position
- Specific leadership actions to assist implementation of the Position
- References that support further investigation into the Position

The process for developing each paper begins with identifying an author to create an initial draft on a specific topic. The draft is edited and sent out to individuals for critique. The paper is revised based on that feedback, returned to the author, and sent to NCSM's Board of Directors for review. The paper undergoes a final edit and then is submitted again to the Board for approval. This extensive and collaborative process reflects our collective voices and contributes to the power of these position papers. NCSM expresses its thanks and appreciation to all who have contributed to this series. We welcome suggestions for future papers, as well as volunteers to write or review.

Current *Position Papers* include:

The *Position Papers* beginning in 2007 are part of The *National Council of Supervisors of Mathematics Improving Student Achievement Series*.

- *Improving Student Achievement in Mathematics Through Formative Assessment in Instruction* (A joint position of the Association of Mathematics Teacher Educators [AMTE] and the National Council of Supervisors of Mathematics [NCSM]) (no. 14, Spring 2014)
- *Improving Student Achievement by Implementing Highly Effective Teacher Evaluation Practices* (no. 13, Spring 2014)
- *Improving Student Achievement by Infusing Highly Effective Instructional Strategies into RtI Tier I Instruction* (no. 12, Spring 2013)
- *Improving Student Achievement in Mathematics by Using Manipulatives with Classroom Instruction* (no. 11, Spring 2013)
- *Improving Student Achievement in Mathematics by Expanding Learning Opportunities for the Young* (no.10, Spring 2012)
- *Improving Student Achievement in Mathematics by Expanding Opportunities for Our Most Promising Students of Mathematics* (no.9, Spring 2012)
- *Improving Student Achievement in Mathematics by Systematically Integrating Effective Technology* (no.8, Spring 11)
- *The Role of Elementary Mathematics Specialist in the Teaching and Learning of Mathematics* (A joint position of the Association of Mathematics Teacher Educators [AMTE], The Association of State Supervisors of Mathematics [ASSM], the National Council of Supervisors of Mathematics [NCSM], and the National Council of Teachers of Mathematics [NCTM] in response to the release of Elementary Mathematics Specialists: A Reference for Teacher Credentialing and Degree Programs [AMTE, 2010)] (Winter, 2010)
- *Improving Student Achievement in Mathematics by Promoting Positive Self-Beliefs* (no.7, Spring 2010)
- *Improving Student Achievement in Mathematics by Addressing the Needs of English Language Learners* (no.6, Fall 2009)
- *Improving Student Achievement by Leading Highly Effective Assessment Practices* (no. 5, Spring 2009)
- *Improving Student Achievement in Mathematics for Students with Special Needs* (no.4, Winter 2008)
- *Improving Student Achievement by Leading the Pursuit of a Vision for Equity* (no.3, Spring 2008)
- *Improving Student Achievement by Leading Sustained Professional Learning for Mathematics Content and Pedagogical Knowledge Development* (no.2, Fall 2007)
- *Improving Student Achievement by Leading Effective and Collaborative Teams of Mathematics Teachers* (no. 1, Fall 2007)
- *A Position Paper on the Development of Numerical Power from the National Council of Supervisors of Mathematics* (September 1999)
- *Focusing the Dialogue: Suggestions for Engaging in Productive Discourse on the Future of School Mathematics, A National Council of Supervisors of Mathematics (NCSM) Position Statement* (Fall 1998)
- *Improving Student Achievement Through Designated District and School Mathematics Program Leaders* (January 1998)
- *Leadership in Mathematics Education: A Position Paper of the National Council of Supervisors of Mathematics* (1994)
- *Essential Mathematics for the 21st Century: The Position of the National Council of Supervisors of Mathematics* (June 1988)
- *National Council of Supervisors of Mathematics Position Paper on Basic Mathematical Skills* (January 1977)

NOTES

CONFERENCE INFORMATION

All conference sessions and events are located at the Boston Exhibit and Conference Center. Be sure to check listings and conference maps at the end of this booklet to locate rooms.

Sponsor Information 2014-2015

- Sponsor Partner Contact Information
- Guide to Advertisers

Commercial Sessions:

- Sponsor Showcases
- Technology Showcases

Speaker Information

- Index of Speakers
- Index of Presenters
- Lead Speaker Contact Information

Conference Planner

Conference Map

Use the Conference Planner at the end of this book to outline your daily schedule.

Wear your NCSM Conference Name Badge to gain entrance to sessions, ticketed events, and the sponsor display area.

Please obey Fire Code standards in sessions—No standing; no sitting on the floor; no moving of chairs from one room to another.

Visit booth **#304** to learn more!

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Teaching Number and Operations Effectively: Keys to Student Success

Sara Delano Moore, Ph.D.
April 14, 2015
8:45–9:45 a.m.
See conference program for location.

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SPONSOR SHOWCASE SESSIONS

All Sponsor Showcase sessions will be held in room 157B of the Boston Exhibit & Convention Center

Monday

9:30 am - 10:30 am	***Math Solutions,*** Session 100: Beyond Invert and Multiply: Making Sense of Fraction Computation
10:45 am – 11:45 am	***Texas Instruments***, Session 118: From Standards to Practice: Leading Teachers to Improve Student Understanding Through Formative Assessment
12:15 pm – 1:15 pm	***Scholastic***, Session 137: Build a Growth Mindset to Accelerate Struggling Students (Grade 5 & up)
1:30 pm – 2:30 pm	***The Math Forum @ Drexel,*** Session 155: Math Forum's Problems of the Week: Practice for Online Assessments
2:45 pm – 3:45 pm	***Discovery Learning,*** Session 173: Experience Math with Awesome Games and Online Tools
4:00 pm – 5:00 pm	***FluidMath***, Session 191.5: Bring Your Handwritten Math to Life with FluidMath

Tuesday

8:45 am – 9:45 am	***ETA hand2mind,*** Session 217: Teaching Number and Operations Effectively: Keys to Student Success
10:00 am – 11:00 am	***Think Through Math***, Session 235: Building Math Muscle: Personalized Instruction that Prepares Students for Rigorous New Standards and Assessments
11:15 am – 12:15 pm	***Pearson***, Session 254: A Moderated Discussion: How can Formative Assessment & Digital Learning Enhance Student Outcomes in the Common Core era?
2:15 pm – 3:15 pm	***Texas Instruments,*** Session 273: Looking for Meaning Before the Task

Wednesday

11:15 am – 12:15 pm	***Markerboard***, Session 350.5: Using Questioning Strategies and Dry Erase Boards to Enhance Formative Assessment Practices and to Increase Rigor: Increasing Student Participation and Engagement and Positively Impacting Student Achievement

TECHNOLOGY SHOWCASE SESSIONS

All Technology Showcases will be held in room 154 of the Boston Exhibit & Convention Center

Monday

9:30 am – 10:30 am	***Pearson,*** Session 101: Leveraging the Power of Mobile across K – 12 Math Classrooms
10:45 am – 11:45 am	***Exemplars***, Session 119: Performance Tasks and Assessments that Support Common Core, K – 5
12:15 pm – 1:15 pm	***Pearson***, Session 138: Digital Learning for the Common Core: Introducing Pearson Common Core System of Courses
1:30 pm – 2:30 pm	***Scholastic***, Session 156: Leverage the Power of Adaptive Technology to Meet Rigorous Goals
2:45 pm – 3:45 pm	***Scholastic***, Session 174: Ensure Progress to Algebra with MATH 180 Course II (Grade 6 & up)
4:00 pm – 5:00 pm	***Redbird Mathematics***, Session 192: Redbird Mathematics: The Next Generation of Stanford University's Digital K – 7 Math Curriculum

Tuesday

8:45 am – 9:45 am	***Math Solutions***, Session 218: Cultivating Your Personal Learning Network with Social Media
10:00 am – 11:00 am	***Scholastic***, Session 236: Build a Foundation for Math Acceleration with MATH 180 Course I (Grade 5 & up)
11:15 am – 12:15 am	***ExploreLearning***, Session 255: How are mathematical standards changing the way you teach?
2:15 pm – 3:15 pm	***Casio***, Session 274: Helping Students Achieve Greatness by Incorporating Easy to Use, Affordable Casio Technology in the Classroom

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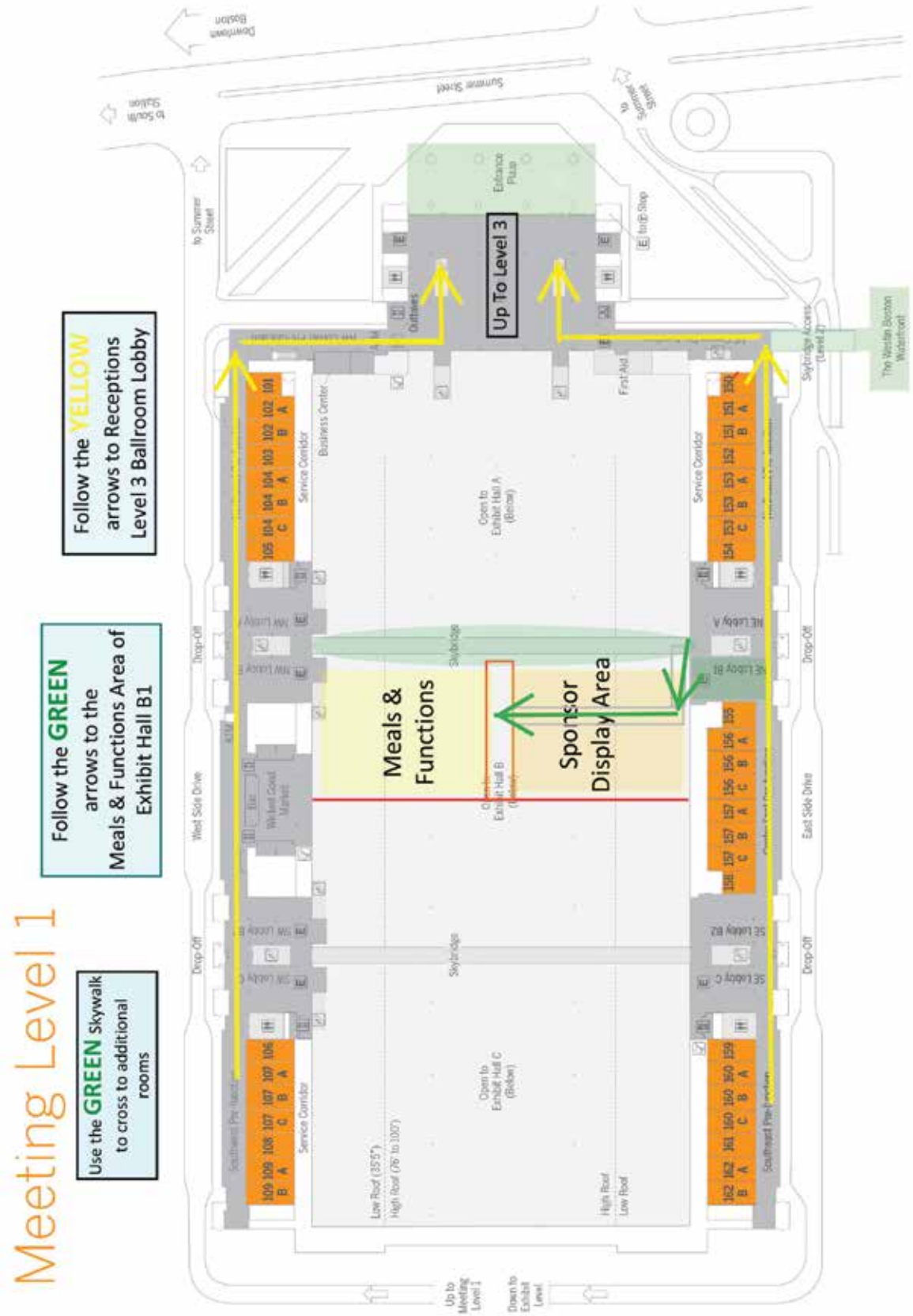
2015 CONFERENCE PLANNER

Note: Commercial Sessions = Sponsor Showcases & Technology Showcases • All Sessions – ***Boston Exhibit and Conference Center***

Date & Time	Event	Location
Monday, April 13		
7:00 am – 5:00 pm	**Advance & On-Site Registration**	NE Lobby Level 1
7:30 am – 8:00 am	**First-Timers Session – Special Gifts**	Level 1, 156A
7:15 am – 8:00 am	**Complimentary Continental Breakfast – MIND Research Institute** (NO Ticket Required)	Exhibit Hall B1-NW
8:00 am – 9:15am	**Opening Session & Keynote** – Jo Boaler	Exhibit Hall B1-NW
9:00 am – 5:30 pm	**Sponsor Displays**	Exhibit Hall B1-NE
9:00 am – 5:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	NE Lobby Level 1
9:30 am – 10:15 am		
10:30 am – 11:30 am		
12:00 pm – 1:15 pm	**Lunch – Partically funded by Math Teachers Press** (Ticket Required) A presentation will be given by Sonja Goerdt	Exhibit Hall B1-NW
12:15 pm – 1:15 pm		
1:30 pm – 2:30 pm		
2:45 pm – 3:45 pm		
4:00 pm – 5:00 pm		
5:05 pm – 5:30 pm	**Special Performance, Pearson** – *The Main Street Kids' Club: A MathStart Musical*	Level 1, 107AB
5:15 pm – 5:45 pm	**First-Timers Session** – Special Gifts	Level 1, 156A
5:30 pm – 7:00 pm	**Reception – Redbird Advanced Learning** (Ticket Required)	Level 3, Ballroom Lobby
Tuesday, April 14		
7:00 am – 5:00 pm	**Advance & On-Site Registration**	NE Lobby Level 1
7:30 am – 8:30 am	**Breakfast – Scholastic, Inc.** (Ticket Required)	Exhibit Hall B1-NW
8:30 am – 4:00 pm	**Sponsor Displays**	Exhibit Hall B1-NE
8:30 am – 4:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	NE Lobby Level 1
8:45 am – 9:45 am		
10:00 am – 11:00 am		
11:15 am – 12:15 pm		
12:30 pm – 2:00 pm	**Luncheon – Texas Instruments** (Ticket Required)	Exhibit Hall B1-NW
2:15 pm – 3:15 pm		
3:30 pm – 4:15 pm	**Caucus Meetings**	Level 1
3:30 pm – 4:40 pm		
4:30 pm – 5:15 pm	**NCSM Business Meeting & State of the Organization Report**	Level 1, 151AB
5:30 pm – 7:00 pm	**Reception – Discovery Education** (Ticket Required)	Level 3, Ballroom Lobby
Wednesday, April 15		
7:30 am – 10:30 am	**Advance & On-Site Registration**	NE Lobby Level 1
7:30 am – 8:30 am	**Breakfast – Pearson** (Ticket Required)	Exhibit Hall B1-NW
8:45 am – 12:15 pm		
12:30 pm – 2:30 pm	**Luncheon – McGraw-Hill & Think Through Mat**h (Ticket Required)	Exhibit Hall B1-NW
2:15 pm – 3:15 pm		
3:30 pm – 4:30 pm		


Meeting Level 1
Use the GREEN Skywalk to cross to additional rooms
Follow the GREEN arrows to the Meals & Functions Area of Exhibit Hall B1
Follow the YELLOW arrows to Receptions Level 3 Ballroom Lobby
Up To Level 3
Meals & Functions
Sponsor Display Area
Service Corridor
Skybridge
Drop-Off
West Side Drive
East Side Drive
Up to Meeting Level 1
Down to Exhibit Level

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BOOTH 603

EXPLORE
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4 PM
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