



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

THE NATION'S PREMIER MATH EDUCATION EVENT

2015 NCTM ANNUAL MEETING
& EXPOSITION
April 15–18 • Boston



Welcome to the
66th Delegate Assembly

April 16, 2015 • Boston



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www.nctm.org

NCTM Delegate Assembly Update

Diane Briars, President

National Council of Teachers of Mathematics

**NCTM Delegate Assembly
NCTM 2015 Annual Meeting & Exposition
Boston**



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NCTM Mission Statement

NCTM is the public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for all students through vision, leadership, professional development, and research.



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NCTM Foundational Priorities

- Access and Equity
- Advocacy
- Curriculum, Instruction, and Assessment
- Professional Development
- Research
- Technology



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- **Marilyn Strutchens**



Major Initiatives

- *Principles to Actions: Ensuring Mathematical Success for All*
- NCTM.org redesign
- NCTM-Hunt Institute video project
- Professional learning strategic planning
- Governance structure assessment and Board development
- Research Committee
Grand Challenges in Mathematics Education



Major Initiatives

***Principles to Actions:
Ensuring
Mathematical Success
for All***



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Principles to Actions: Ensuring Mathematical Success for All

- The principles and actions, including specific teaching practices, essential for a high-quality mathematics education for all students
- What it will take to turn the opportunity of the Common Core into reality in every classroom, school, and district



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Principles to Actions: Ensuring Mathematical Success for All

- **Supportive conditions, structures, and policies required** to give all students the power of mathematics.
- Focus on **teaching and learning**
- Engage students in **mathematical thinking**
- Ensure that mathematics achievement is maximized **for every student**
- It's not specific to any standards; **it's universal**



Principles to Actions Outreach & Resources

- *Principles to Actions* Executive Summary
(in English and Spanish)
- *Principles to Actions* overview presentation
- *Principles to Actions* professional development guide
(Reflection Guide)
- Mathematics Teaching Practices presentations
 - Elementary case, multiplication (Mr. Harris)
 - Middle school case, proportional reasoning (Mr. Donnelly) (in English and Spanish)
 - High school case, exponential functions (Ms. Culver)
- *Principles to Actions* Spanish translation*



Principles to Actions

Effective Teaching Practices Toolkit

- Illustrate the Teaching Practices in Grades K-5, 6-8, 9-12
- PowerPoint slides, illustrative cases/video clips, tasks, activities
- Working Group:
Peg Smith (chair); Victoria Bill, Melissa Boston, Fred Dillon, Amy Hillen, DeAnn Huinker, Stephen Miller, Mary Lynn Raith, Mike Steele, Chonda Long (NCTM).
- Partnership with Institute for Learning, University of Pittsburgh, for video clips and some other resources.



Principles to Actions

Mathematics Teaching Practices Toolkit

High School

| Featured Teacher | Ms. Culver | Jeffrey Ziegler | Debra Campbell | Shalunda Shackelford | Wobberson Torchon | Erica Gandy | Jamie Bassham |
|--|--|-----------------|----------------|----------------------|-------------------|----------------|------------------|
| Grade Level/Subject | 10 | 11-12 | Geometry | Algebra 1 | Algebra 1 | Geometry | Algebra 2 |
| Task | Pay it Forward | S-Pattern | Playground | Bike & Truck | Calling Plans1 | Amazing Amanda | Missing Function |
| Content | A | A | G | F-IF | A-CED | ???? | A-APR |
| Medium | narrative | video | video | video | video | video | video |
| Effective Mathematics Teaching Practices | Establish mathematics goals to focus learning | | | | | | |
| | Implement tasks that promote reasoning and problem solving | | | | | | |
| | Use and connect mathematical representations | | | | | | |
| | Facilitate meaningful mathematics discourse | | | | | | |
| | Pose purposeful questions | | | | | | |
| | Build procedural fluency from conceptual understanding | | | | | | |
| | Support productive struggle in learning mathematics | | | | | | |
| | Elicit and use evidence of student thinking | | | | | | |



Principles to Actions

Guiding Principles Toolkit

- Illustrate the Guiding Principles in Grades PK-5, 6-8, 9-12, and for different audiences (teacher leaders, administrators)
- PowerPoint slides, illustrative cases/video clips, tasks, activities
- Working Group:
Gary Martin, Marilyn E. Strutchens (Co-Chairs), Robert Berry, Dan Brahier, Skip Fennell, Matt Larson, Joanne Wells, Dave Barnes, (NCTM).



NCTM *Principles to Actions* Toolkit Sessions

- ***Moving to Action: Effective Teaching Practices in the Elementary Grades*** Thursday, April 16, 2015: 3:30 PM-4:30 PM Commonwealth C (Westin) DeAnn Huinker, Victoria L. Bill, Amy Hillen
- ***Moving Principles into Actions: Leading Change in Mathematics Programs (Elementary)*** Friday, 4/17 12:30pm – 1:30pm, Room 103 (BCEC) Melissa Soto, Skip Fennell,
- ***Moving to Action: Effective Teaching Practices in the Middle Grades*** Friday, 4/17 9:30am – 10:30am, Room 207 (BCEC), Mike Steele, Margaret Smith
- ***Moving Principles into Actions: Leading Change in Mathematics Programs (6-8)*** Thursday, 4/16 3:30pm – 4:30pm, Grand Ballroom A (Westin) Robert Berry, Marilyn Strutchens, Joanne Wells
- ***Moving to Action: Effective Teaching Practices in the Secondary Grades*** Friday, 4/17 2:00pm – 3:00pm, Room 209 (BCEC) Melissa Boston, Stephen Miller
- ***Moving Principles into Actions: Leading Change in Mathematics Programs (9-12)*** Thursday, 4/16 2:00pm – 3:00pm, Commonwealth C (Westin) W. Gary Martin, Dan Brahier



Major Initiatives

NCTM-Hunt Institute video project: *Teaching and Learning Mathematics with the Common Core*

- Enhance public understanding of what students need to know for college and career
- Why conceptual understanding requires a different approach
- Teachers, educators, leaders, and parents with classroom video
- Primarily for the public; useful to educator outreach



Teaching and Learning Mathematics with the Common Core Video Series

- Mathematics in the Early Grades
- Developing Mathematical Skills in Upper Elementary Grades
- Building Conceptual Understanding in Mathematics
- Mathematical Foundations for Success in Algebra
- Preparation for Higher Level Mathematics
- Parents: Supporting Mathematics Learning
- Standards for Mathematical Practice



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Mathematics in the Early Grades



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<http://www.nctm.org/Standards-and-Positions/Common-Core-State-Standards/Teaching-and-Learning-Mathematics-with-the-Common-Core/>



NCTM.org Redesign

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Ken Krehbiel
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My NCTM

Here are just some of the benefits:

- Up to \$60,000 in stipends
- Funding for conferences
- A community of STEM teachers

Get Started

MyJournals

Grand Challenges and Opportunities in Mathematics Education Research

Journal for Research in Mathematics Education

Smarter Cookies

Mathematics Teacher

An inquiry-based project to examine statistical claims encourages students to become more savvy media consumers.

Shop the NCTM Store

Principles to Actions: Ensuring Mathematical Success for All

Professional Learning Strategic Planning

Goal:

To design a coherent, comprehensive approach to our professional learning offerings

- Fall Annual Meeting (beginning 2020)
- Function/role of Annual meeting, Regional meetings, Interactive Institutes, Research Conference, online professional learning opportunities
- What to initiate? What to stop doing?



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Interactive Institutes

February 2015 Interactive Institute

- Effective Teaching with Principles to Actions: Implementing College- and Career-Readiness Standards



2015 Interactive Institutes



- Algebra Readiness for Every Student, Grades 6-8
July 20-22, Chicago
- Connecting Number and Operations in the
Classroom, Grades PK-5
July 23-25, Chicago
- Engaging Students in Learning: Mathematical
Practices and Process Standards
Grades 3-8 Grades 9-12
July 27-29 July 30-August 1, Anaheim



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NCTM Regional Conferences

Atlantic City

October 21-23, 2015

Minneapolis

November 11-13, 2015

Nashville

November 18-20, 2015



Major Initiatives

- Governance Structure Assessment and Board Development
 - Publishing Committee
 - Classroom Resources Committee
- Research Committee
 - Grand Challenges in Mathematics Education*



NCTM as an Equity Organization

- Establish a process to promote diversity among NCTM leaders and emerging leaders;
- Explicitly promote diversity among leaders and emerging leaders in terms of involvement in committees, publication authorship and focus, and presentations at conferences/institutes



Advocacy and Outreach

- NCTM President briefing for Congressional staff on reauthorization of the Elementary and Secondary Education Act
- NCTM Legislative Platform for the 114th Congress
- Mathematics Common Core Coalition
- NCTM Staff Co-chair of STEM Education Coalition
- NCTM Staff on House STEM Caucus Steering Committee



NCTM Board Actions on Delegate Assembly Resolutions

TODOS, 2013

When publishing electronic materials that are intended to be used by students, NCTM will make every effort to publish copies in both English and Spanish. This would include, but not limited to, lesson samples, worksheets, and other materials used by students that are provided through the very valuable NCTM Illuminations resource.

Approved 4-13-15: 13-0-0



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NCTM Board Actions on Delegate Assembly Resolutions

Affiliates-at-Large Caucus

RESOLUTION O.NR.14.01

The name for NCTM's "Affiliates-at Large" be changed to a name that better reflects who and what these organizations represent.

For example: Special Focus Affiliates

Specific Focus Affiliates

The NCTM Board has already disapproved a similar resolution.

NCTM Board Motion:

This resolution will be taken into consideration as part of a review of the overall governance structure of NCTM.

Approved July 10 13-0-0



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NCTM Board Actions on Delegate Assembly Resolutions

Central Caucus

RESOLUTION O.NR.14.02

The ASC creates pathways/plans/possible ways for Affiliates to adapt their annual meetings to the new schedule 2020.

The NCTM Board recommends that Affiliates receive guidance from NCTM on a case-by-case/as needed basis in facilitating NCTM's transition to a Fall Annual Meeting and resolving any Affiliate meeting conflicts.



Linking Research and Practice Outstanding Publication Award

Más o Menos: Exploring Estimation in a Bilingual Classroom

Higinio Dominguez
Melissa Adams

Teaching Children Mathematics, August 2013



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Linking Research and Practice Outstanding Publication Award

Multidimensional Teaching

Robert Q. Berry III

Mark W. Ellis

Mathematics Teaching in the Middle School,
October 2013



NATIONAL COUNCIL OF
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Linking Research and Practice Outstanding Publication Award

Equivalent Expressions Using CAS and Paper-and-Pencil Techniques

Nicole L. Fonger

Mathematics Teacher, May 2014



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