





MATH IN ACTION 2017 PROGRAM

SESSION A: 8:40–9:40 A.M.

- A1

Math in Art

John Golden, Grand Valley State University

Heather Minnebo, West Michigan Academy of Arts and Academics

Participants will think about how art can give purpose and context for math, and math can inspire art. Heather, an artist, and John, a mathematician, will lead hands-on activities.

Grades PreK-2
- A2

Common Core Mathematics Assessments for Every Standard

Keith Barnes, St. Joseph County Intermediate School District

St. Joseph County teachers created CCSS Mathematics assessments for every grade-level standard. Focus includes the unpacked standards and assessment writing process. Assessments are shared in a Google site.

Grades K-11
- A3

Engaging Students in Meaningful Math through Games

David Coffey & Kathryn Coffey, Grand Valley State University

Games are an effective way to engage students in learning. Participants will experience how to support the development of pre-adolescent mathematicians through purposeful play.

Grades 3-5
- A4

Making Math R.E.A.L. (Relevant, Experiential, Applicable, Lively)

Demetrius Nelson, Clay Elementary School/Cobb County School District

Participants will learn of highly engaging retention strategies to assist 3rd-6th grade students understand math standards related to factorization, fractions, and multiplication connecting to family, dining, sports, and music.

Grades 3-5
- A5

Setting up a Collaborative Classroom

Tara Maynard, Creekside Middle School, Zeeland Public

Getting students to collaborate & work together takes time, patience, modeling & thought-out activities. Come explore activities that help set up a collaborative, student-centered classroom that is focused on relationships.

Grades 6-8
- A6

Do Dogs Know Calculus?

Timothy Pennings, Davenport University

We show how watching a dog retrieve a ball thrown into a lake leads to interesting mathematical questions. In particular, does the dog take the shortest time route to the ball?

Grades 9-12
- A7

Desmos 101: Online Graphing Calculator For All Devices

Kevin Lawrence, Michigan State University

An introduction to desmos.com, an online graphing calculator for laptops, tablets, and smartphones. Focus is on creating dynamic representations (symbolic, tables, and graphs) for the algebra classrooms. Bring a device!

Grades 9-12

SESSION C or BRUNCH: 11 A.M.–NOON

- C1

KEYNOTE:

How Do They Relate? Teaching Students to Connect Ideas

Tracy Zager, Stenhouse Publishers & Coach/Consultant

Many students see math as a series of discrete topics, rather than a landscape of interconnected concepts. We'll analyze transcripts and student work that reveal strategies for teaching relational thinking, an important habit of mind of mathematicians. We'll play with rich questions to encourage students to make—and appropriately break—mathematical connections among concepts you teach.

Grades PreK-12
- C2

Using Manipulatives and Picture Books to Develop Addition and Subtraction

Kevin Dykema, Mattawan Consolidated Schools

How can I help my students better understand addition and subtraction, rather than memorizing series of steps? Discover why manipulatives are powerful tools to develop conceptual understanding

Grades PreK-2
- C3

Differentiating for Diverse Learners Using a Guided Math Framework

Olivia Alkema, Kristin Root & Christi Gilbert, ZONES Math

Teachers learn ways to increase student engagement, develop mathematical language, and promote higher-order thinking for diverse learners using a guided math framework that can be used with any curriculum.

Grades 3-5
- C4

Developing Creative Problem Solvers

Eric Mann, Hope College

Mathematics embraces creativity and beauty, attributes that are often hidden when algorithms and computational speed are favored. We'll explore mathematical creativity and its implications for the teaching and learning of mathematics.

Grades 3-8
- C5

Equal is as Equal Does! Discovering the Properties of Equality.

Holly Ylitalo, Ashley Community Schools

How a STEM lesson designed for students to discover the Property of Equality on their own actually worked out in the classroom... and where to go with it next.

Grades 6-8
- C6

Mathematical Modeling in High School: Getting at the SMPs for All Students

Jason Gauthier, Allegan County Intermediate School District

Come discuss and experience how mathematical modeling, beginning with open problems, can help students engage with and master the Standards for Mathematical Practice, better preparing them for college and careers.

Grades 9-12



SESSION E or LUNCH: 1:20–2:20 P.M.

- E1

KEYNOTE:

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Grades PreK-12
- E2

3 Act Tasks

Chelsea Ridge, Regional Math and Science Center

It is important to be intentional when engaging children in mathematical tasks. The Three Act Task framework provides a structure for teachers to engage with students in rich tasks.

Grades PreK-2
- E3

Build Math Explanations Through App Smashing and Screencasting

Carolyn Bolduc, Grand Rapids Public Schools

We will use iPads to construct math concepts using app smashing and screencasting. Please bring your iPad. Download free apps: Geoboard, Educreations, Seesaw, Number Line and Number Pieces.

Grades 3-5
- E4

Mathematical Learning through Fun Games with Online Materials and Instructional Videos

Karen Novotny, Grand Valley State University

Sabrina Fuggerson, Abbie Reed, Kara Plaggemars, Kaela Sakorafis, Madison Starr, & Chelsea VanderZwaag, GVSU Students

We will play some math games created by GVSU math majors. In addition, we'll share progress on our project to provide free online materials and instructional videos for those games.

Grades 6-8
- E5

Deeper Learning: Using SAT Data to Change Instruction

Jill Griffin, Michigan Department of Education

Participants will engage in a review of the current SAT test data to examine how making small shifts in math instruction can lead to deeper learning for ALL students.

Grades 9-12
- E6

Blending Your Class

Michael Dodge & Julie Grinwis, Reeths-Puffer High School

Have you flipped your classroom? Have you created videos for your students? This session will look at other ways you can use technology to increase student engagement and achievement.

Grades 9-12

SESSION B: 9:50–10:50 A.M.

- B1

Launching Math Workshop

Sara Voss, Zeeland Public Schools

This break-out session will help you understand and launch Math Workshop in your classroom.

Grades PreK-2
- B2

Math in Your Feet: Moving Bodies are Learning Bodies

Malke Rosenfeld, Math in Your Feet

Kids love to move! Learn how we can harness students' whole, moving bodies as tools for doing, learning, and making sense of mathematics.

Grades K-5
- B3

Do you have a growth mindset?

Jon Hasenbank, Grand Valley State University

Megan Reiley & Sarah Park, GVSU Students

Come see how math teachers in our hall empowered kids by focusing on growth mindset. Based on Boaler & Dweck's book Mathematical Mindsets.

Grades 3-5
- B4

Leveraging the Flip to Personalize Instruction

Delia Bush, Central Elementary School/Kenowa Hills

Curious about flipping your classroom? It's more than just videos! Come learn about how I use a flipped classroom to personalize instruction for all learners.

Grades 3-8
- B5

Rich Task + Facilitation = Understanding

Rusty Anderson, Kent Intermediate School District

This session will imitate a classroom where participants interact with a task and participate in facilitated dialogue. Outcomes: Visual Pattern Task Exposure, Teacher Discourse Moves, and Group Protocols

Grades 5-12
- B6

Standards Based Grading in the Secondary Classroom

Tara Becker-Utess, Ingham Intermediate School District

I will describe the philosophy behind standards based grading and then delve into specific ways to make it work in your classroom.

Grades 9-12
- B7

Desmos 201: Classroom Activities

Kevin Lawrence, Michigan State University

A continuation of Desmos 101, we will look at various Desmos classroom activities. Bring a device!

Grades 9-12

SESSION D or LUNCH: 12:10–1:10 P.M.

- D1

Using Assessment to Inform Instruction

David Coffey, Grand Valley State University

Kristin Frang, MAISD Regional Mathematics and Science Center

This session explores a partnership that brought together in-service and pre-service teachers for Math Recovery training. Participants will hear how teachers collaborated on math interventions and instruction.

Grades PreK-5
- D2

Student Centered Math

Wendy Gravelyn & Tracy Horodyski, Zinser Elementary

Personalize math without taking over your personal life! We will share strategies that have a high impact on student learning (math talks, purposeful talk, collaboration, self-assessment, math workshop).

Grades 3-5
- D3

The Power of Powering

Ann Bingham, Berrien RESA

Powering is the ability to identify those standards that focus on both core and tier 2 instruction. Participants will investigate the resources and protocols to support powering the CCSS for mathematics.

Grades 3-5
- D4

True Teamwork - Roles in Math Instruction

Jeffery Schiller, Jean Baker, & Aaron Eling

Grand Haven Public Schools

The reading of Dr. Jo Boaler's book Mathematical Mindsets caused a group of math teachers at White Pines Intermediate to rethink and rework how math teaching is accomplished from the ground up. This presentation will focus on how we have adopted the Complex Instruction model into an American style curriculum, what works for us, and how it has evolved as we have progressed.

Grades 3-8
- D5

Stereotype Threat in Mathematics

Kathryn Coffey, Grand Valley State University

Engaging students with mathematics, especially algebra, is difficult. This interactive session focuses on stereotype threat and fixed mindset as potential barriers to engagement in mathematics, particularly for diverse learners.

Grades 6-16
- D6

Make'em Think - High School level tasks and ideas you can implement on Monday

Zach Cresswell, Mt. Pleasant Public Schools

This session will be interactive, engaging and conversational. I'll share (and you'll do) some of my best precalculus, algebra II, and AP calculus tasks that help to develop mathematical thinkers!

Grades 9-12
- D7

Developing Mathematical Practices for AP Calculus (MPACs)

Mandy Forslund, Grand Valley State University

Participants will experience teaching strategies to develop the MPACs in students using two Free Response questions from the 2016 AP test and discuss how College Board's rubrics promote the MPACs.

Grades 9-12

SESSION F: 2:30–3:30 P.M.

- F1

Mathematical Practices at Play

Kathryn Coffey, Grand Valley State University

Kaileigh Wenglikowski, Megan Reiley & Lauren Galasso, GVSU Students

The Mathematical Practices reflect what mathematicians do for work - and play. In this workshop, participants will explore how to support the development of young mathematicians through play.

Grades PreK-2
- F2

Continuing the Keynote Conversation

Tracy Zager, Stenhouse Publishers & Coach/Consultant

Interested in engaging in a discussion with Tracy Zager in a more intimate setting? Come discuss topics from the keynote presentation in greater depth with Tracy and other interested participants.

Grades PreK-12
- F3

Mathematical Learning through Fun Games with Online Materials and Instructional Videos

Karen Novotny, Grand Valley State University

Sabrina Fuggerson, Abbie Reed, Kara Plaggemars, Kaela Sakorafis, Madison Starr, & Chelsea VanderZwaag, GVSU Students

We will play some math games created by GVSU math majors. In addition, we'll share progress on our project to provide free online materials and instructional videos for those games.

Grades 3-5
- F4

Engineering Math into a Science Storyline

Ruth Anne Hodges & Megan Schrauben

Michigan Department of Education

Learn how to leverage the new science standards to teach important mathematics concepts. Presenters will share lesson planning tips to build integrated lessons that support both math and science learning.

Grades 3-5
- F5

Using Coding to Enhance Algebra Skills

Jim Licht, St. Clair RESA Mathematics and Science Center

Bootstrap is a computer coding language designed by a math teacher to enhance Algebra Skills. Students use sound coding and math practice skills to create their own videogame.

Grades 6-8
- F6

Standards Based Grading at the High School Level

Alyssa Boike, Charlotte High School

Learn how our math department transitioned to standards based grading. I will share our process, challenges faced, and lessons learned in addition to providing time to create and question.

Grades 9-12
- F7

Panes in a Window

Jan Koop, Calvin College

Model a real-world problem, building windows of various shapes and several types of panes, to discover and represent patterns algebraically. The problems can be adapted to various grade levels.

Grades 9-12