

# (MT)<sup>2</sup> ANNUAL CONFERENCE

**When?**  
February 22nd  
**Where?**  
Pope John Paul II  
117 Caldwell Drive  
Hendersonville, TN 37075



Find us at <https://mt-squared.wildapricot.org/>  
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## MIDDLE TENNESSEE MATHEMATICS TEACHERS ANNUAL CONFERENCE FEBRUARY 22, 2020

### 8:00-8:50 Session 1

8:00-8:50 \*\*\* Room 101

Dr. Alisha A. Hayes

Grade Level: Pre-K, Elementary

**Flip Your Math Instruction with Seesaw and Nearpod** : Are you wanting to integrate technology into your math block? Do you have ipads or tablets and don't know what role they will play in your instruction? If yes, then this session is just for you! In this session you will learn how to use technology apps/platforms to enhance your math instruction. Seesaw is a classroom app for meaningfully engaging students in their learning. Along side Nearpod, a ready-to-run award-winning platform of K-12 lessons, these two apps will take your math instruction to another level and increase student engagement. Join me and you will leave ready to implement them in your math block!

8:00-8:50 \*\*\* Room 104

Carey Wilson

Grade Level: Middle, High

**Transformational Quilting** : In this presentation, I will discuss how I have done a quilt project in a high school setting for the past four years with geometry classes. We use student-designed blocks to create a full-size quilt and then we host a dinner at the school to give the quilt away as a fundraiser for a club at our school. I use this project to review transformations in geometry. However, I will also present multiple ideas of how you might use this in your classroom to align with your standards.

8:00-8:50 \*\*\* Room 105

Christina Ploeckelman & Susan Shaffer

Grade Level: Middle

**Beyond the Worksheet: Fun and Engaging Practice Structures to Promote Fluency** : Boring worksheets are not the only way to build fluency. Learn about a variety of practice structures the presenters use regularly in our own classrooms to promote fluency. These activities motivate students, provide immediate feedback and can quickly be adapted for any skill.

8:00-8:50 *** Room 107	Emily McDonald and Shirley McDonald	Grade Level: General
<p><b><u>Playing with Math: Incorporating Puzzles and Logic</u></b> : Promote fun in your math classroom by incorporating reasoning and problem solving skills with games such as KenKen, SET, Salute, Tic-Tactics, and more. Participants will learn various math games that promote reasoning and problem solving skills.</p>		
8:00-8:50 *** Room 202	Ashley Willis and Josie Lehde	Grade Level: High
<p><b><u>Implementing Tasks in the Secondary Classroom</u></b> : How to find and implement worthwhile mathematical tasks.</p>		
8:00-8:50 *** Room 203	Ruth Casey	Grade Level: Middle, High
<p><b><u>TI-NspireCX-- Basics &amp; Beyond</u></b> : Let's explore some features of the TI-NspireCX that can enhance instruction and engagement in your mathematics classroom.</p>		
8:00-8:50 *** Room 208	Ryan Anne McClard and Markie Hawkins	Grade Level: Pre-Service
<p><b><u>Surviving edTPA and Your First Year of Teaching</u></b> : Presenters will discuss strategies and tips to pass edTPA and ways help you survive your first year teaching. Ryan Anne McClard (Smith County High School) and Markie Hawkins (Lebanon High School)</p>		
9:00-9:50 Session 2		
<p><del>Moved to 1:00-1:50 9:00-9:50 *** Room 102</del> ————— Sheila Horstman</p>		
<p><del>Grade Level: High</del></p>		
<p><del><b><u>Completely Randomized Design vs Matched Pairs Design</u></b> : This session will be an activity that illustrates how to assign treatments in a completely randomized design, how to assign treatments in a matched pairs design, and how matched pairs design can improve an experiment.</del></p>		
<b>ADDED SESSION 9:00-9:50 *** Room 103</b>	Sam Ligo, Emmanuel Akoja	Grade Level: Middle, High, College
<p><b><u>The Mean, The Myth, The Legend: Box Plots!</u></b> Box plots are powerful, but they can be hard to appreciate. Learn techniques to help students master the myth of the Box Plot</p>		
9:00-9:50 *** Room 106	Kimberly Dennis & Susan Sewell	Grade Level: Middle, High, Pre-Service
<p><b><u>Engaging Students with Digital Breakouts</u></b> : Turn your worksheets, practice problems, or reviews into an exciting virtual escape room that instantly engages students. This session will provide you with the tech tools and knowledge to create your very own digital breakout experience for your students.</p>		

<b>9:00-9:50 *** Room 108</b>	Amanda Lister, Ed.D.	Grade Level: Elementary  <b>Who is doing the thinking? Engaging students in Authentic Problem Solving</b> : This session will focus on designing open, engaging tasks for all students. Participants will experience an open problem solving task from Nrich, an online bank of rigorous tasks. They will evaluate Jo Boaler's 5 C's of Mathematics Engagement and the NCTM Math Practices experienced during the task. Participants will revise a typical textbook problem to allow for more student thinking and engagement that incorporate the 5 C's.
<b>Added Session: 9:00-9:50 *** Room 202</b>	Kim Mullins	Grade Level: Elem(3 <sup>rd</sup> grade)  <b>Team Math</b> : Using community volunteers to help students improve fact fluency. Team Math focuses on building positive relationships and firm mathematical foundations.
<b>9:00-9:50 *** Room 201</b>	Nikki McClellan and Joy Sanders Grade Level: Elementary, Middle, General, Pre-Service	<b>The Road to Recovery: Facing Negative Emotions about Math Head On</b> : Students are dealing with varying levels of math trauma-- whether that's feeling the need to prove their level of math intelligence or deciding to give up on all math endeavors. This presentation is about ways that we are trying to combat the negative emotions about math in order to have better math classes.
<b>9:00-9:50 *** Room 206</b>	Monica Laird Grade Level: Middle, High, General	<b>Professional Learning Communities: The Ground Floor of Time Saving Tricks</b> : Looking for a better way to plan so you won't need to reinvent the wheel year after year? We got you. Come listen to how we make work lighter, together!
<b>9:00-9:50 *** Room 209</b>	Dawn Pilotti Grade Level: ALL	<b>Building Mathematical Understanding to Improve Student Achievement</b> : Developing Math Understanding to Improve Student Achievement: Building Number Sense in School and at Home  The ability to work fluidly and flexibly with numbers directly influences student math achievement. This session will define mathematical understanding from the perspective of number sense. Evidence-based practices to improve number sense in neurodiverse learners will be introduced along with suggested resources for school and home.
<b>10:00-10:50 Session 3</b>		
<b>Canceled: 10:00-10:50 *** Room 101</b>	Dr. Alisha A. Hayes Grade Level: Pre-K, Elementary	<del><b>B.U.I.L.D Math Stations – Activities to Enhance Your Guided Math Stations</b> : Are you stumped on what to do for math stations/centers/rotations or Math Daily 5? If so, it's time to B.U.I.L.D. your math stations with confidence and engaging materials with this session. BUILD is not a curriculum, it is a management piece for Math Stations. Each letter stands for something different and you choose activities/assignments for students to complete. I will go through each letter of B.U.I.L.D and show you different activities to incorporate in each station. You will leave with new ideas to add to your math toolbox and activities to get you started right away.</del>

**ADDED SESSION 10:00-10:50 \*\*\* Room 101**

Melanie Lehman

Grade Level: Middle, High

**Creating Digital Breakout Lessons in Math** : Demonstrating how to create digital breakout sessions using OneNote, Sway, and Forms.

**10:00-10:50 \*\*\* Room 104**

Dr. Holly Anthony & Mrs. Carey Wilson

Grade Level: Middle, High, General, Pre-Service

**Mathematical Letter Writing** : We will share how we are using Math Letter Writing to pair high school students with preservice math teachers. Preservice teachers create math tasks accompanied by letters that are exchanged with their high school pen pals every other week for a semester. Sample letters and tasks will be shared along with tips for doing this in your classroom.

**10:00-10:50 \*\*\* Room 105**

Jennifer Meadows and Jane Baker

Grade Level: Pre-K, Elementary

**Putting the "M" in Your School STEM Nights** : In this session, station ideas will be shared as well as overall planning ideas for STEM events. Participants will be encouraged to share their own ideas and experiences as well.

We will share station ideas that support mathematical learning for students of early childhood age focused on measurement. This includes length, weight, volume, and time. Stations focus on both standard and non-standard units.

**10:00-10:50 \*\*\* Room 107**

Emily McDonald and Shirley McDonald

Grade Level: Middle and High

**Create Math Explorations with Technology using Desmos** : Take your math instruction to a higher level with the Desmos Graphing Calculator and Desmos Activity Builder. This session is for beginners to learn how the free online Desmos calculators and activities can help you facilitate math conversations even when you only have one computer in your classroom. You will learn how the Desmos calculators can be used for teacher modeling and student problem solving. The free Desmos activities can help you create a social and creative math classroom when your students have access to devices.

**10:00-10:50 \*\*\* Room 202**

Dr. Audrey Bullock and Dr. Marylu Dalton

Grade Level: Pre-K, Elementary, Middle, High, Post-Secondary, General, Pre-Service

**Teachers Going Gradeless** : This session will share recent research related to grades and homework. The presenters will share how they have changed their classrooms in response to this research. Participants will be asked to share their ideas from their own experiences with grades and homework.

**10:00-10:50 \*\*\* Room 203**

Ruth Casey

Grade Level: High

**TI-84PlusCE and ACT Prep** : We will explore some strategies and calculator functions that student can use as they prepare for the math portion of the ACT.

**10:00-10:50 \*\*\* Room 208**

Kaity Eastin

Grade Level: Elementary, Middle, High, Post-Secondary

**Using Nearpod and FlipGrid in the Math Classroom** : We are going to look at two different interactive technologies- Nearpod and FlipGrid. We will discuss how these websites work, ways you can use them in your class, and why you would want to use them.



**11:00-12:00 \*\*\* Session 4 KEYNOTE - LIBRARY**

Grade Level: General

**Palindromes in Life and Mathematics : Graphing, Transformations, Problem Solving**

Ryan A. Nivens is an Associate Professor of Mathematics Education and is extensively involved in undergraduate and graduate STEM education at East Tennessee State University. He is an instructor in the Eastman Chemical Company's Scholar MathElites Program, and was a consultant for the State of Missouri Mathematics Academy from 2001-2007. Since 2008, he has authored nine STEM grants totaling \$228,000 and co-authored five STEM grants totaling over half a million dollars. He has served as president of two mathematics education organizations and has published several articles on innovative ways to teach mathematics. He edits the award winning UETCTM *Newsletter* where he shares the writings of northeast Tennessee math teachers. He started his career as a secondary mathematics teacher in Missouri before moving to ETSU. He holds a B.S. in Mathematics from Evangel College, an M.Ed in Secondary Education from Drury University, and a Ph.D in Mathematics Education from the University of Missouri – Columbia. Ryan and Tonya, his wife of over 20 years, enjoy living with their seven children in the Appalachian Mountains where the trees are green, the trails are long, and the water is pure. They enjoy trips to Ft. Walton Beach, Dollywood, and Standing Stone State Park. You can find Ryan splitting firewood for his parents, telling stories to his kids, and attending Cornerstone Church in Johnson City.

**12:00-12:50 – Lunch and Business Meeting – Cafeteria****1:00-1:50 Session 4****1:00-1:50 \*\*\* Room 102**

Michelle Weal &amp; Dr. Alysia Durham

Grade Level: High

**Red Rover, Red Rover, Send Your Angles Right Over!** : Incorporating angle measures into coding using the TI-84 calculators and Rovers

**Moved from Morning: 1:00-1:50 \*\*\* Room 103**

Sheila Horstman

Grade Level: High

**Completely Randomized Design vs Matched Pairs Design** : This session will be an activity that illustrates how to assign treatments in a completely randomized design, how to assign treatments in a matched pairs design, and how matched pairs design can improve an experiment.

**1:00-1:50 \*\*\* Room 104**

Miguel Perez &amp; Carey Wilson

Grade Level: High

**Productive Problems** : In this workshop, we will present problems from two books, "Geometry Snacks" and "More Geometry Snacks". Participants will work in groups to develop a basic lesson around a problem from this book (or around multiple problems). This session will use Google docs to share teacher work and hopefully, teachers will leave with a lesson plan they can incorporate into their daily work.

**1:00-1:50 \*\*\* Room 106**

Holly Anthony

Grade Level: Middle

**Using Algebra Triangles & Hundreds Boards to Develop Algebraic Reasoning** : We will use Algebra Triangles and Hundreds Boards to help students develop algebraic reasoning in Grades 4-8.

1:00-1:50 *** Room 108	Dr. Audrey Bullock and Dr. Rebecca Darrough	Grade Level: Elementary, Pre-Service
<p><b>Selecting and Implementing High Level Tasks in Elementary Grades</b> : Together, participants will discuss several sample elementary tasks and their levels of cognitive demand. In addition, strategies for keeping the level of rigor high will be shared.</p>		
1:00-1:50 *** Room 201	Dr. Sam Narimetla	Grade Level: High, Post-Secondary, General
<p><b>Mathematics in Engineering and Physics</b> : Will see many applications of algebra in engineering and physics.</p>		
1:00-1:50 *** Room 203	Ruth Casey	Grade Level: High
<p><b>TI-84Plus -- Beyond the Basics</b> : What are some valuable and often overlooked features of the TI-84Plus that can enhance instruction and increase student understanding? How can TISmartView CE software be used as an effective instructional tool? Come join us as we explore using the TI-84 calculator for more than computation &amp; graphing. Let's go beyond the basics as we use images, piece-wise functions, graph databases, APPS, and programs to support student understanding and concept development. We will see how communication and engagement can be enhanced through the use of (free) TI-Connect™CE software. (BYOC or borrow a TI-84CE at the session.)</p>		
1:00-1:50 *** Room 209	Ryan Fox	Grade Level: General
<p><b>Piecewise-Defined Functions: A Taxing Situation</b> : In this presentation, I will show how a piecewise-defined function can be used to determine the amount of federal income tax a taxpayer must pay in a year. A comparison between the piecewise formula and the IRS tax tables will be discussed. We will illustrate how the marginal tax rates explain slopes of lines in the graph of the individual pieces of the function.</p>		
2:00-2:50 Session 5		
2:00-2:50 *** Room 101	Camille Coleman, Kaylee Anderson, Ryan Nivens	Grade Level: Elementary
<p><b>See You Later Alligator!</b> : Drawing from articles published in Teaching Children Mathematics, we share assessment ideas for the equals sign and the greater than/less than signs that emphasize conceptual understanding of the symbols rather than the traditional "hungry alligator" method. We explore assessment of these symbols with both whole numbers and fractions.</p>		
2:00-2:50 *** Room 105	Rebecca Darrough	Grade Level: Elementary, Middle, Pre-Service
<p><b>What is a Remainder?</b> : Do you give your students division problems that don't have remainders? In this session, we will talk about why students need to work problems with remainders, what to do with the remainder, and what those remainders mean in the context of the problem. We will look at problems using whole numbers, decimals, and fractions.</p>		
2:00-2:50 *** Room 107	Emily McDonald and Shirley McDonald	Grade Level: Middle and High School



**M<sup>3</sup>: Making Math Meaningful (with Technology)** : Create learning opportunities with technology in the mathematics classroom. Learn ways to incorporate math and technology using resources such as Desmos, EquatIO, Delta Math, Google Doc Equation editor, and more. Participants will learn how to incorporate a variety of math websites and tools with their planning, teaching, and assessment to promote student engagement.

**2:00-2:50 \*\*\* Room 202**

Marylu Dalton

Grade Level: High

**What should students know for their college math class?** : Some high school mathematics teachers share the concern of the college faculty on this question and ask what the college faculty would expect students to know when they enter their first college-level mathematics class. In this presentation, I will present a brief review of the research literature which includes insights and perspectives of the curricular concepts as well as standards for mathematical practice as endorsed by CCSSI (Common Core State Standards Initiative) and the NCTM (National Council of Teachers of Mathematics). We will share and discuss some anecdotal information as observed and experienced by local university professors. Opening this conversation to include both the high school and college faculty is vital to bolstering student success and helping them to thrive in their college-level mathematics classes.

**2:00-2:50 \*\*\* Room 206**

Kaycie Hartwig, Caleb Marston, Jackie Vogel

Grade Level: Pre-Service

**Tennessee Aspiring Teachers of Mathematics:** New Statewide Preservice Teacher Organization  
Description: Come find out about the new statewide organization for preservice teachers of math in all grades, preK to high school.

**2:00-2:50 \*\*\* Room 208**

Samantha Fletcher

Grade Level: Middle, High, General, Pre-Service

**Nearpod or Peardeck? A Teacher's Perspective on Interactive Slides** : Have you tried your hand at incorporating the AWESOME presentation tools that Nearpod or Peardeck have to offer? Do you just want to know more about interactive slideshows? If yes, this session is for you! During this session, you will get a high school teacher's feedback on both tools, create your own beautiful interactive slideshows, and discuss pros and cons of each. Bring a laptop!

**2:00-2:50 \*\*\* Room 103**

Lea Keith, Heather Gay

Grade Level: K-2, 3-5, Middle, High, Pre-Service, General

**Co-Teaching Strategies for the Inclusion Model Classroom** : Come to discuss the different models of co-teaching, co-planning, and modeling what it can look like in action.