

Welcome to MCTM's e-Newsletter!

MI Math Community August 2021



Michigan
Council of
Teachers of
Mathematics

Best viewed on a desktop or go [HERE](#) to see as webpage.

See the end for: For the Love of Math, Integer Games & Activities, Astronaut Abby, Rich Math Task resources for all grades



Wrap Up: MCTM's 72nd Annual Conference July 27 & 28, 2021

Over 150 participants attended MCTM's first virtual two-day annual conference.

This year's conference provided sessions and experiences in four strands:

- Effective Teaching Practices
- Building Knowledge for Teaching
- Teachers as Leaders & Change Agents
- Creating Inclusive Spaces & Promoting Social Justice

Due to the virtual nature of this event, the Conference Committee was able to recruit speakers that normally would have been unable to travel to our in-person event and many participants were able to attend for the same reason.

Thanks go out to our line-up of phenomenal speakers, [sponsors](#), and to all on the Conference Committee (listed below) who volunteered their time and expertise to make this event happen.

The next two issues will give a snapshot of some of the many valuable sessions offered and we hope to have more content from our awesome presenters features in future issues of *MI Math Community*.

Tuesday Keynote: Poetry Empowered, [The Diatribe](#)

A powerful opening to our event, The Diatribe uses performing arts to empower young people to share their stories, raise awareness of social issues, and create change within their communities. Gleason, Foster and Sprout shared not only their stories but ideas on how to help 'humanize' mathematics classrooms. Visit their website for information on assemblies, programs, and free curriculum.

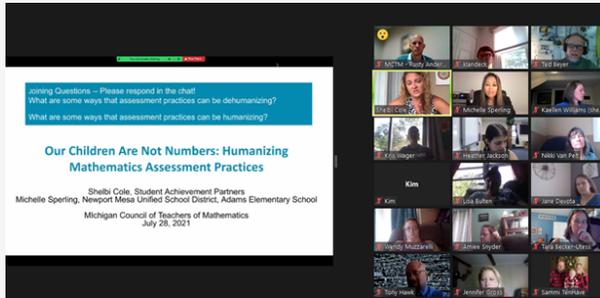
"Measuring success by numbers is restrictive and doesn't make space for the nuances of the human experience." - Sprout

"Find ways to interweave story-telling into your classroom so your students can see themselves in mathematics." - Foster

How do we humanize math class? Some students fail English class because they don't understand the power of their story. Far too often students don't utilize the things they have been taught. Giving young people the information in a way they can relate to and that excites them is one way to humanize math classroom. Also, humanize yourself for your students so that they can see your classroom as a safe place and you, the teacher, as a safe person.



Wednesday Keynote: Our Children are NOT Numbers: Humanizing Mathematics Assessment Practices, Shelbi Cole & Michelle Spering



"Do not start with the mentality of fixing kids, instead use data to think about what is and isn't working at the system level."

"It's changed my teaching so much, because I'm not so much focused on the correct answer but on the information I get about the student's thinking..." - Michelle Spering

What have we gained by humanizing mathematics?

Students	Teachers
Access to math	Authentic insight into student thinking.
Enthusiasm for math	A deeper knowledge of our students' mathematical understandings
Mathematical discourse	Agency - Permission to do what's best for our students
Stronger mathematical identity	Teacher identity

This Month's Highlights from T/W Sessions

Integrate Problem Solving, Modeling, Technology, Relevant Data with Important Social Issues -- Tom Reardon

Tom's session drew connections amongst multiple representations with the parent functions and allowed "students" (i.e. session participants) to explore the similarities/differences. This session pushed participants to deepen their understanding of mathematics so they may be better equipped to teach their high school students.

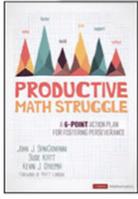
Manipulatives as a Tool for Differentiation --Kevin Dykema

"A struggling student vs. a student who struggles. The words we use are important."

When students get a new video game, they don't read the directions. They dive right in and are OK with making mistakes along the way. However, that is NOT how we teach mathematics. Why don't we let them 'dive right in' first? Combining a strategy with a manipulative tool is very powerful. Kevin also touched on mathematical rules that expire over time. Curious? A future issue will contain an article devoted to this topic!

There are moments when explicit instruction of a skill or concept must be provided. But before such instruction happens, students must have the **first crack** at making their own meaning.

San Giovanni, Katt, Dykema





The Area Model -- From Kindergarten to Calculus-- Tony Hawk

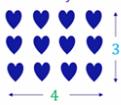
Mr. Hawk led a dynamic and energetic session that walked attendees through the grad level connections of the area model. Seeing the representations side-by-side shows students that there is a story to be told and students then see the connections.

Repeated Addition's Connection to Multiplication
The Area Model from K-12

Your Turn:

1. Identify the "dimensions of the "array" with the columns as the number of equal groups, and row as the number of objects within each group.
2. Create an Area Model and number sentence/equation that symbolically represents the connection between repeated addition, and multiplication and sum total of hearts illustrated.

Array



4 3

Area Model



4 3

Number Sentence/Equation

$$12 =$$

$$3 + 3 + 3 + 3 =$$

$$(1 + 1 + 1 + 1) \cdot 3 =$$

$$4 \cdot 3 =$$

$$3 + 3 + 3 + 3 = 4 \cdot 3 = 12$$



Using Area Models to Teach Multiplying, Factoring, and Dividing Polynomials -- Rhonda Pierre

This session introduced and allowed teachers to explore how the area model may be used as a tool to help participants better understand the polynomials. This session leveraged the model to push conceptual understanding and gave adequate time for members to solve problems, ask questions and apply the approach to their context.

Next month's issue will highlight more sessions!

2021 Conference Committee	
A special thank you is in order for this team! Not only have they persevered to put together this amazing opportunity but they have navigated uncertainty due to the pandemic with grace and innovation. MCTM is forever grateful!	
Chelsea Ridge	GVSU Math & Science Center
Debbie Schuitema	Godfrey Lee Math Coach
Jess Tufnell	Kent City Community Schools Teacher
Joe Elsheikh	Berrien RESA Math Consultant
Kelli VanSetters	MCTM Board Member
Kristin Haga	Godwin Heights Math Coach
Marcus Deja	Kent ISD Math Specialist
Megan Coonan	MCTM President Elect
Pam Lindemer	MCTM Board Member
Monica McCauley	MCTM Board Member
Rusty Anderson	MCTM President
Sarah Park	East Grand Rapids Teacher
Scott Acre	MCTM Board Member
Tracy Krafft	Godwin Heights Teacher

Using Python to Squeeze the Fun Back Into Math

Becky Byler, *Kelly Walsh High School, Wyoming; Regional T³™ instructor; Nationally Board Certified & AP[®] Computer Science Principles exam reader.*

Have you heard the BIG news?

Python is now included in the new TI-84 Plus CE Python graphing calculator! What does this mean for math class? Python on the handheld gives teachers a tool to teach algorithmic thinking, provide authentic opportunities for problem solving, and enhance mathematical reasoning. Using coding to teach and explore mathematics uses all the math practice standards. Plus, when you teach students Python, you'll be introducing them to one of the most widely used programming languages across a variety of industries.

You might be asking: Just how can coding be used to enhance math instruction?

Let's look at one possible example: quadratics. We all teach it. What are some of the key ideas students should understand about quadratics? <<<Continue Reading by clicking on the button below>>>

Continue Reading!



Show off your unique flair with a graphing calculator that's all you. Paint or decorate the cover, graph a fun design, or even 3D-print a super-customized logo — anything goes when it comes to your creative style.

Enter the photo contest for your chance to win great prizes

Post photos of your customized calculator case, beautiful graph drawing or creative code on a public Twitter or Instagram using #TICalcContest.**

- Be automatically entered for a chance to win weekly prizes, featuring a **brand-new TI graphing calculator** of your choice and a fun math swag box that includes a T-shirt, tote bag, notebook and more.
- At the end of the contest, one person will be selected to win the **glowing grand prize package** detailed below.
- The contest runs through **Sept. 15, 2021** (see [contest rules](#) for full details).

Glow up your calculator and light up your wall

The grand prize winner will receive a totally unique, custom-made Math is Lit neon sign — in addition to all the featured prizes in our weekly giveaways.

That means one crazy-creative contestant wins it all: the custom neon sign, a brand-new TI graphing calculator and the math swag box with loads of cool stuff!

Contest Rules & Guidelines

About Texas Instruments Education Technology

For more than 30 years, TI has been an active member of classrooms around the world, empowering teachers, and inspiring students to succeed in mathematics and science. Through our calculators, coaching and classroom resources, TI Education Technology is transforming the way teachers teach and students learn STEM (science, technology, engineering, and mathematics) subjects. With our award-winning products, engaging lessons, real-time assessment and top-notch professional development, TI is leading the way in mathematics and science education.

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<http://education.ti.com>

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Press Release

Contact: Martin Ackley, Director of Public and Governmental Affairs, 517-241-4395
Bill Disessa, Spokesperson, 517-335-6649

Free Text Messaging Service for Families Aims to Improve Children's Literacy

"A new public library service for families, called "TALK: Text and Learn for Kindergarten," will help build early literacy skills for young children, the Library of Michigan announced today."

MDE Press Release

Focus on: Standards of Mathematical Practices

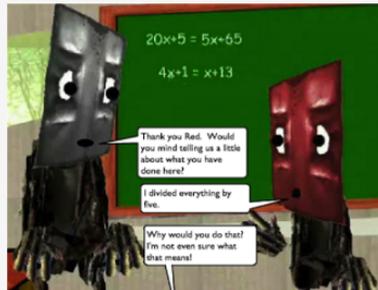
This our series that focuses on the SMPs across grade levels. We are coordinating with Professor of Education and Mathematics [Patricio Herbst](#) and Assistant Research Scientist [Amanda Milewski](#) from the University of Michigan to bring MI Math Community readers information and opportunities around the Standards of Mathematical Practices. District math specialists and curriculum leaders are encouraged to reach out to discuss ways of providing professional development to larger groups of teachers.



SMP7: Look for and Make Use of Structure

The Common Core State Standards for Mathematical Practice #7 states that students should learn to "look for and make use of structure". In this module, participants will have the opportunity to engage with an instructional scenario drawn from the secondary algebra curriculum. Specifically, participants will observe, annotate, and read other participants' annotations of a scenario in which students are working to solve a linear equation. In the scenario, students are unsure regarding the validity of arithmetic operations and must "step back for an overview and shift perspective." After considering various ways the teacher could support SMP #7, participants will have the opportunity to try implementing the SMP with their own students and receive feedback from an online facilitator.

The course will award 5 SCECHs upon completion. Visit <https://lessonsketch.catalog.instructure.com/> to enroll for \$75 (use the code MCTM1).



Visit the [Newsletter Page](#) for a **SPECIAL** document showing the progression of ALL eight mathematical standards throughout the grade levels as well as a document focusing on High School.

The [Chasing Einstein Challenge](#) is a 9-week activity for 3rd-12th grade students designed to help them become creative and persistent problem solvers. Click on the image below to go to the video or click [HERE](#). These materials are free for classroom teachers to use!

This Challenge asked students to view the [video](#) and then complete PolyUp [puzzles](#). Students are then asked (1) How does looking for patterns and making connections help you in math? and (2) What did you find difficult about the Polyup puzzles? How did you help yourself?

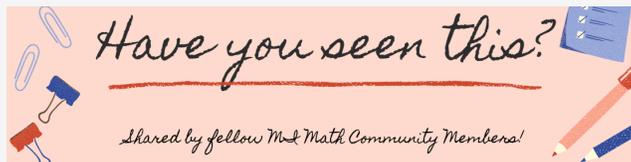
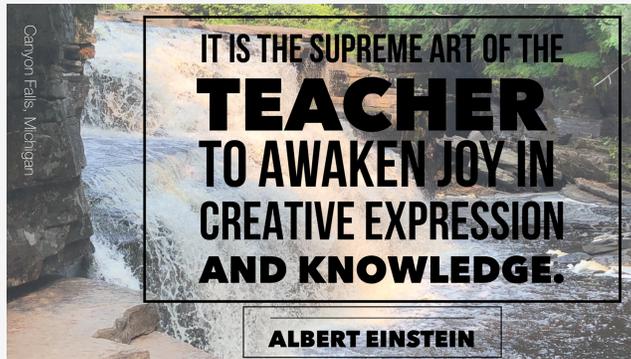


For the Love of Math..

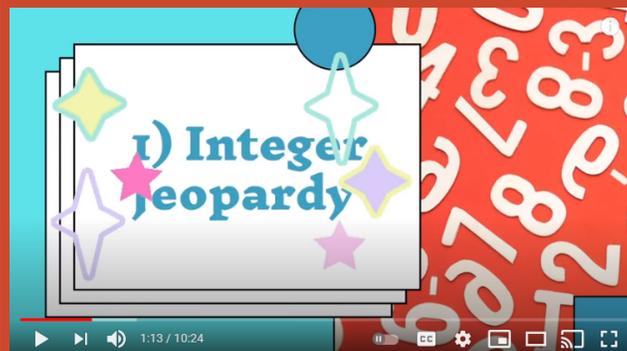
Gamblers Ruin? Probability & The Detroit Tigers

Welcome back to **Mel Billik**, long-time contributor to MCTM's former journal Mathematics in Michigan and retired HS/College Michigan educator! In this article he explores the application of high school **probability** to baseball!

[Full Article: Gamblers Ruin?](#)



One of our readers brought this video to our attention. Homemade Mathematics goes through a variety of games & activities that can be used to practice integer operations. Click on the image below or go [HERE](#) to see the video AND get links to the activities themselves.



Where do you go to find Rich Math Tasks?

MCTM Board Member **Conni Crittenden** passed along this information that was shared through our parent organization NCTM. Our Fav Places to Find Rich Math Tasks by Margie Pearse & Lane Walker. Here are a few FREE to share.

- [AGREE or DISAGREE MATH](#) AGREE/DISAGREE MATH: Gr 2-5 images are designed to start robust discussion by @timscaffrey
- [CASTILLO - 3-ACT TASKS](#) Catherine Castillo created some amazing 3-Act Tasks for all grades. @MsCastillosMath
- [CLOTHESLINE MATH](#) Clothesline Math is a manipulatable number line that makes the facilitation of class discourse on number sense much more efficient and effective. @MathProjects and @mr_stadel
- [ESTIMATE THE NUMBERS](#) Practice estimating skills with a context as you compare the reasonableness between two numbers @fawnpnguyen

Looking for Personal Finance Curriculum or PD?



Another reader lead us to [this](#) website of free resources:

"Whether you're looking for a full course or a quick bell ringer to kick off class, NGPF has the resources for you! Choose from a wide selection of customizable, ready-to-use courses, lessons, and activities to teach personal finance at both the [high school](#) and [middle school](#) levels."

Astronaut Abby!

Abigail Harrison dreams of becoming the first astronaut to Mars. Using with her website and Facebook page, Abby encourages students to pursue their dreams and promotes STEM education. At age 18, she founded a non-profit to "educate and excite kids and adults about space exploration and STEM education". Maybe you've seen her TedTalk ["What's Your Mars?"](#) Her post ["Positive Self Talk: How To Be Your #1 Cheerleader"](#) will resonate with students!



Looking to motivate & inspire your students this school year? Visit www.astronautabby.com. Her post ["How to Stop Procrastination Today!"](#) might be a beginning-of-the-year conversation to have with students!

Welcome to **MI Math Community**! One of MCTM's renewed initiatives is a monthly e-newsletter to share information about mathematics, mathematics education, and the happenings of MCTM.

Have an idea or topic you'd like to see included? Have a short article to submit for publication consideration? Want to give feedback? Please email MCTM Publications Director and MI Math Community Editor **Christine Kincaid Dewey** at Publications@mictm.org. Look for the e-newsletter to develop and grow over time based on member input.

This message has been sent to you {[Organization Name](#)}.

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Contact the e-Newsletter editor at Publications@mictm.org