

ATOMIC Conference March 2024

3 3-5 **6** 6-12 **8** 6-8 **9** 9-12 **A** All Educators **K** K-2 **5** K-5 **R** Roundtable Discussion

MARCH 25 • MONDAY

PINNED **A** **ATOMIC Welcome, Annual Meeting, and Awards** Ballroom A
8:00am – 8:20am

PINNED **A** **Keynote Panel** Ballroom A
8:20am – 9:20am
Speakers: Nicki Newton, Annie Fetter, John SanGiovanni
Our expert keynote panel will speak to the conference theme: stepping it up, elevating math education together.

9:30am – 10:30am **8** **Bright Spots and Stumbling Blocks toward Shifting Culture in the Math Classroom** Temple
Speakers: Lisa Swanson, Carrie Keramis, Julie Fisher
This session will focus on our journey with teachers to support the effective use of low-floor, high-ceiling thinking tasks to engage all learners and promote critical thinking. Participants will engage in a hands-on activity where they experience a BTC-style thinking task. We will emphasize how these tasks make student thinking visible and how teachers' planned moves facilitate formative assessment, using hints and extensions to advance student learning. Through reflection and discussion, participants will analyze the impact of classroom conditions on student learning experiences, leaving them with practical insights to immediately apply in their classrooms.

9:30am – 10:30am **8** **Is Math Important to Music or is Music Important to Math?** Church
Speakers: Mary-Grace Cianci, Mary-Grace M. Cianci, Justine Gatti
The National Arts Education Association (NAEA) published a position statement in 2021 on arts integration and shared that "arts integration builds greater understanding across disciplines, supporting authentic experiences that engage and motivate learners". Specific to mathematics, arts integration can help to deepen learners' understanding of concepts but accessing both hemispheres of the brain.

This presentation will be facilitated by a general music teacher and a secondary mathematics coach to share their experiences with creating and executing a music/math integrated unit to middle schoolers. Math and music standards were assessed. In addition, the co-presenters will have participants engage in tasks related to the integration of music and middle school math.

9:30am – 10:30am **9** **Unlocking the Future of Statistics Education: Empowering Teachers with ChatGPT** Wooster
Speakers: Emily Rostkowski, Megan Staples
In this session, we will engage participants in a workshop leveraging ChatGPT as a tool for teachers to enhance statistics education. As the demand for quantitative skills and statistical literacy in STEM-related careers (and beyond) grows, it is imperative to provide students with engaging statistics classroom experiences. ChatGPT will be introduced as a tool to enhance statistics curricula and support lesson planning, offering example prompts to help teachers better implement real-world connections to engage and interest students. Teachers will use and experiment with ChatGPT to learn about the increasing capabilities of AI in statistics education.

9:30am – 10:30am **9** **You had me at "Hello"** George A
Speakers: Joshua Hester-Reyes
For all those teachers helping over-age and under-credited students LEARN algebra (for the 2nd, 3rd, 4th, or so time). Participants will receive tips for building a strong and safe learning climate in classrooms comprised of students that have typically struggled in the past. We will also take a deep-dive into algebra's "big rocks": what they are, how to scaffold complex tasks, and how to grade for equity. If you have kiddos that would rather poke themselves in the eye with their pencil instead of trying a math lesson, this could be the session for you!

9:30am – 10:30am	A	Culturally and Linguistically Responsive (CLR) Protocols in the Math Classroom <i>Speakers: Rachel Saunders</i> Want to get your students up and moving and talking about math? This session will cover multiple culturally and linguistically responsive (CLR) protocols to use in your classroom. It will be interactive and immerse participants in problems using the protocols as if they were students. The focus will be on Attention Signals, Movement Activities, and Response Protocols all designed to validate and affirm the students' cultural backgrounds and help them build and bridge capacity for being successful in school. Middle school examples will be utilized but the protocols are transferrable to any grade. All protocols are based on Hollie's book, Culturally and Linguistically Responsive Teaching and Learning.	York
9:30am – 10:30am	A	How We Grade in a Thinking Classroom <i>Speakers: Tim Brzezinski, William McKinney</i> Chapter 14 of Peter Liljedahl's book, "Building Thinking Classrooms" focuses on how we can effectively grade students in a thinking classroom. In this session, we will explore how teachers can begin to easily transition from points-based grading to standards-based grading in a painless fashion. In addition, participants will be given time to explore, copy, interact with, and customize a specially made Google Sheet that automates student grades exactly the way Peter describes in his text.	College A
9:30am – 10:30am	A	Integrate Prior Knowledge: A Deep Dive into Acceleration within Grade Level Content <i>Speakers: Danielle Curran</i> Districts across the United States are looking at ways to help accelerate student learning within grade-level content. Connecting to prior knowledge through learning progressions is an effective way to help students gain confidence to participate in rigorous Tier 1 instruction.	Crown
9:30am – 10:30am	A	Writing in the Mathematics Classroom <i>Speakers: Melissa Gunter</i> Writing about mathematics and mathematical thinking is a vital part in the process of learning mathematics, but knowing how to start or how to challenge your budding mathematical writers can be mystifying! In this session we will discuss how to help students grow as writers in mathematics across the grade levels.	George B
9:30am – 10:30am	5	Cultivating Student Ownership of Mathematical Language and Ideas <i>Speakers: Louisa Connaughton, Jenna Laib</i> What structures in the math classroom nurture student ideas? How can we support students in developing their mathematical thinking alongside their mathematical identity? In this workshop, we will consider ways to cultivate students' understanding and use of mathematical language in ways that increase student ownership and agency within the K-8 classroom. Participants will gain insights and practical ideas that can be put to use in their own classrooms.	College B
9:30am – 10:30am	5	Elevating Early Numeracy: Learning Progressions and Math Centers in Action <i>Speakers: Angie Meredith</i> Experience numeracy games and hands-on activities that are designed to transform the way students engage with number and operation concepts. Learn how to incorporate a three-step learning progression to ensure that the center activities you use are not only educational but also developmentally appropriate and tailored to meet the unique needs of every learner. In addition, games with repeat play and leveraging randomization mechanics foster engaging and effective centers. Discover how to make math fun, engaging, and meaningful for students during center time.	Witney
9:30am – 10:30am	5	High Quality Instruction Live <i>Speakers: Joanna Vastola, Julia Darcy</i> How can we leverage professional learning to support teaching a new math curriculum with integrity? How do we make visible the in-the-minute teacher decisions that can have a huge impact on mathematics instruction? Come learn about an innovative summer teaching lab structure that allowed participating educators to define best practices around planning high quality math lessons and responding to students in real-time. Hear from participants about the successes, challenges, and surprises we've encountered along the way. Leave with creative ideas for adjusting professional learning experiences in your setting.	Whalley

9:30am – 10:30am	5	Unlocking Problem Solving for All: Addition and Subtraction <i>Speakers: Ann Elise Record</i> Too often when problem solving, our students have developed into what Graham Fletcher calls “pluckers”. They pluck numbers out and then try to find a key word that tells them which operation to perform. We will be exploring all the problem types that involve single-step addition and subtraction (there are 15!) including modeling the structure of them using concrete and pictorial representations. In addition, we will discuss how we can engage students in problem solving such as 3 Reads and Numberless Word Problems. Together we can create flexible and confident mathematicians and ensure positive math journeys for all!	Chapel
9:30am – 10:30am	R	Roundtable on Building Thinking Classrooms (K-5) This is a moderated roundtable discussion about the Building Thinking Classrooms model of instruction as it applies to grades K-5. Possible discussion questions include: 1. What parts of the book <i>Building Thinking Classrooms</i> by Peter Liljedahl have you implemented in your classroom? 2. Where are you experiencing success? How do you know you're experiencing success? Why are you experiencing success? 3. Where are you finding challenges? What are some ways you could navigate those challenges?	Ballroom B
9:30am – 10:30am	R	Roundtable with John SanGiovanni <i>Speakers: John SanGiovanni</i> This is a moderated roundtable discussion with keynote speaker, John SanGiovanni.	Ballroom A
10:40am – 11:30am		Lunch 1 Presentations during session B are running at two different times: 10:40 and 11:30. Your choice of session will determine which lunch wave you are in. There is no need to sign up for a lunch wave at this time.	Ballroom A
10:40am – 11:40am	8	Mindful Note Taking: Notes to Our Future Selves <i>Speakers: Doreen Stohler, Sharon Weingart, Ashley Beal</i> Mindful Note Taking:Notes to Our Future Selves Share in our journey as we transition from workbooks and glue/copy-the-notes to note taking as a mindful and meaningful task. It is not about creating the perfect note-taking template or drafting a concise summary statement. Teaching effective note taking requires a paradigm shift in our understanding of how students engage with and make meaning of new content.	Temple
10:40am – 11:40am	8	Utilizing Restorative Practices in the Math Classroom <i>Speakers: Jessica White, Rochelle Cobb</i> As math educators, it can sometimes feel impossible to teach both mathematical content and attend to the needs of our students. Although we are teaching mathematics, Restorative Practices is a way to attend to our students' social and emotional well-being as well as support students mathematically. Through the different practices, we can build deeper relationships with our students, provide meaningful feedback, and find connections to mathematics. In this session, participants will engage in the multiple tools that Restorative Practices offers and reflect on their experiences. Participants will also have the opportunity to discuss with others on how they might utilize Restorative Practices with their students, analyze common obstacles that they have faced, and plan how they might begin to utilize some of these tools in their classrooms.	Whalley
10:40am – 11:40am	9	Culturally Relevant STEM Pedagogy <i>Speakers: Hannah Cooke, Kenya Overton</i> Culturally relevant STEM pedagogy centers equity, maintains high standards for students, and develops critical consciousness. In this workshop, participants will experience examples of rigorous interdisciplinary instruction and collaborate to develop lessons specific to their grade level and discipline. Participants will leave with ideas for implementing lessons that empower students to take action on real world issues, while learning the content and skills.	George B

10:40am – 11:40am	9	Shifting Our Thoughts on Transformation <i>Speakers: Jason DiStasio</i> Why does $x+3$ translate to the right in Geometry, but to the left in Algebra 2? In this workshop we will see how, through the lens of transformations, we can gain a deeper understanding of the connections across secondary mathematics. Our journey will start with standards in Algebra 1 and reach all the way into Calculus, noting the similarities and differences in how we use and interpret transformations. Why do these differences exist? How can we think about transformations in new ways to resolve these differences for ourselves and students? Attendees will have a chance to play and investigate these ideas using dynamic visual tools such as desmos.	Witney
10:40am – 11:40am	9	Top Tips for Tackling the SAT with TI <i>Speakers: Robyn Poulsen, Karen Campe</i> This workshop is designed for mathematics educators who want to learn to leverage TI-84 Plus CE graphing calculator skills to drive student success on the SAT® test. We will cover the main topics of the SAT® test, discuss strategies for helping students to better understand key content, and emphasize techniques for teaching with TI-84 Plus CE technology. By the end of the workshop, participants should be able to implement test preparation strategies in the mathematics classroom and use premade activities that reinforce technology skills and deepen student understanding of key topics.	College A
10:40am – 11:40am	A	Homegrown Teacher Leadership: Building a Districtwide Model for Supporting Building Thinking Classrooms Implementation <i>Speakers: Kate Grayeb, Jackie Rankin, Mario Carullo</i> In this session, teachers, school and district leadership will learn about an innovative model supporting 32 K-12 math teachers across 16 schools in the Hartford Public School system during their initial implementation of the Building Thinking Classrooms practices. Attendees will explore the components of this model, including the use of collaborative learning teams and a problem of practice protocol. Additionally, the presenters will share research and data from year 1 participants and key takeaways for facilitators. Session attendees will be encouraged to consider ways to apply this model in their own district or context and leave inspired to empower teachers within their own district to become transformative teacher leaders.	York
11:30am – 12:30pm	5	Let's Plunge into the Underpinnings of Subtraction by Connecting Representations! <i>Speakers: Amy Chang</i> What does a model/representation highlight about the underlying mathematics? What does it obscure? This session will provide participants with a powerful experience to explore these questions. We will build bridges across representations while unpacking students' strategies for 2-digit subtraction. Lingering in the connections between representations can yield deeper conceptual understanding, not only for our students, but also for ourselves!	Church
11:30am – 12:30pm	5	No Extra Resources: Using What You Have To Elevate Student Math Identity <i>Speakers: Jennifer Phaiah, Daisy Rhau</i> This presentation details how to provide students the essential conditions for positive math identity and agency as learners without having to prepare extra resources or change the curriculum. Using story problems as a common framework, participants will explore step-by-step pedagogical adjustments that guide students toward increased proficiency with communication, reasoning, modeling, and analysis (SBAC claims 3 and 4), with applications to other common math topics, such as place value, properties of operation, and fact fluency. Participants will have the opportunity to discuss how to leverage their own curricula with on-the-ground strategies.	College B
11:30am – 12:30pm	5	Strategies for making math content comprehensible for multilingual learners <i>Speakers: Ann Graboski, Alison Foley</i> In this session, participants will learn effective strategies to engage and include multilingual learners of all levels in grade level math. By creating different access points, all students can fully participate in math instruction. Strategies for discourse and vocabulary development will be highlighted.	George A

11:30am – 12:30pm	5	Student-Centered Feedback: Fostering Independence in Math Learners <i>Speakers: Elly Blanco-Rowe</i> This workshop is designed to equip educators with innovative methods for providing feedback that not only enhances mathematical proficiency but also empowers students to become independent, self-directed learners. During this engaging session, participants will delve into strategies that shift the feedback dynamic from teacher-centered to student-centered. We'll explore how to create a learning environment where students actively engage with feedback, reflect on their own progress, and take ownership of their mathematical growth. <ul style="list-style-type: none"> • Discover the principles of student-centered feedback and its impact on mathematical independence. • Explore practical techniques for delivering feedback that encourages self-regulation and metacognition. • Engage in hands-on activities and case studies to apply these strategies to real classroom scenarios. • Learn how to tailor feedback to individual learning styles and needs, promoting inclusivity. • Leave with actionable insights to implement immediately, fostering mathematical independence in your students. 	Wooster
11:30am – 12:30pm	5	Young Mathematicians at Work: Establishing and Supporting Mathematical Identities <i>Speakers: Catherine Fosnot</i> This session will use video examples from diverse k-5 classrooms where the Standards for Mathematical Practice are being taken seriously. The clips will be analyzed to determine the characteristics that need to be in place during math workshop to ensure a climate is established for the development of identities in k-5 communities where students see themselves as young mathematicians at work.	Chapel
11:40am – 12:30pm		Lunch 2 Presentations during session B are running at two different times: 10:40 and 11:30. Your choice of session will determine which lunch wave you are in. There is no need to sign up for a lunch wave at this time.	Ballroom B
12:40pm – 1:40pm	3	Let's Move Past Sharing Cookies! Using Context, Manipulatives, and Models to Teach Division <i>Speakers: Danielle Krueger, Kristi Pramuka</i> Do your students struggle with division? They don't have to! It's time to bring division to life by giving it context to support students as they build a conceptual understanding of division. We can go beyond just splitting cookies into equal groups and dive into the two different types of division problems! Let's make learning division a hands-on experience as students explore the relationship between multiplication and division. Come explore using context, manipulatives, models, and multiple flexible strategies that can be applied to basic division and beyond!	College B
12:40pm – 1:40pm	3	Mathematics + Emotions = Academic Success: Empowering Emotional Intelligence in the Mathematics Classroom <i>Speakers: Danielle Legnard, Tom Salvador</i> Mathematical Emotions Matter, especially when it comes to teaching children mathematics in the primary grades. This will be a unique session where participants will be immersed in an elementary mathematics classroom environment and experience the emotions felt by both teachers and students. Students who feel safe, respected, supported and challenged in the elementary mathematics classroom will succeed academically. We will explore ways to intentionally incorporate RULER tools and strategies into everyday math routines and lessons. We will present data to support our findings between emotional safety and academic performance in mathematics. Join us and learn strategies that you can bring to your classroom the very next day!	Whalley
12:40pm – 1:40pm	6	Using Hip-Hop Based Education in...MATH??? <i>Speakers: Kenya Overton</i> In education, Hip-Hop is often associated with anti-intellectualism, not a high-quality, standards-based educational experience for students. However, research has shown that using cultural characteristics, experiences, and perspectives of diverse students can teach them more effectively. Since Hip-Hop culture was created and is maintained by Black and Latinx youth, educators who engage with them should know how to do so effectively. This interactive workshop focuses on actionable ways to use Hip-Hop Based Education (HHBE) in mathematics. It invites participants to reimagine the mathematics classroom as a place where honoring Hip-Hop and mastering mathematical concepts coexist.	George B

12:40pm – 1:40pm	8	<p>Four Steps to Understanding Integers Proposal</p> <p><i>Speakers: Heidi Sabnani, Molly Vokey</i></p> <p>During this workshop, we will involve participants in concrete learning of what integers are and how to introduce this tricky content to students in a hands-on way. Through patterns, play and reasoning, we will show that there is a lot more we can do to prepare students for integer operations. We will introduce beaded number-lines, number bonds, and vectors as tools to use in the classroom for conceptual integer development. Participants will view sample student work and will have the opportunity to experience activities and routines that encourage the development of a conceptual understanding of integers.</p>	Witney
12:40pm – 1:40pm	9	<p>Beyond 'What Do You Notice?': More Strategies for Inquiry with Technology</p> <p><i>Speakers: Karen Campe</i></p> <p>You've heard of 'Notice & Wonder' and 'Which One Doesn't Belong', so this session will share 4 OTHER inquiry strategies that can build understanding with graphing calculator and computer technology platforms. Learn about Same & Different, Action-Consequence-Reflection, and more! Increase student engagement and give access to ALL students by implementing sense-making discourse in your math classes. Topics from all of HS math will be included from Algebra through Precalculus.</p>	College A
12:40pm – 1:40pm	9	<p>Designing Effective Thin Slicing Tasks: A Look into Multiple Ways of Slicing!</p> <p><i>Speakers: Jackie Rankin, William McKinney</i></p> <p>We take a deep dive into task design following the lead of Liljedahl's Building Thinking Classrooms. We explore how to design tasks that provide opportunities for students to autonomously (in small groups) move through curricular content. The pedagogical power in these "thin slicing tasks" derives from variation theory, where the designer must carefully vary only one aspect of the task progress while holding other elements constant. The progression of tasks then attunes learners to different aspects of the task. In this 60-min session, we experience the implementation of a thin-slicing task, and reflect on the design, implementation and experience. Then we will share multiple models of thin slicing, and how the tasks are designed. Lastly, participants will then work on developing a thin slicing task on one topic with a partner, and engage in a round of feedback with another team. Additional resources are shared.</p>	Temple
12:40pm – 1:40pm	A	<p>Lessons from the Field: Examining Diverse Math Teacher Training and Retention Through a Residency Model</p> <p><i>Speakers: Marlene Megos, Ushawnda Mitchell, Violet Sims</i></p> <p>In this workshop participants will understand the challenges and identify actions to grow and sustain a diverse and qualified math teacher workforce. With lessons learned from recruiting and training over 100 teachers of color, we will share our plans to combine coursework, coaching and a residency model to create a teacher pipeline in secondary mathematics. Participants will explore the benefits of combining hands-on learning experiences with theory and mentorship to innovate and accelerate teacher preparation.</p>	George A
12:40pm – 1:40pm	A	<p>Make Math Make Sense with Problem Strings</p> <p><i>Speakers: Merryl Polak</i></p> <p>Do you ever have students who think that math is just a bunch of facts to be memorized? Have you struggled with students who don't see the connectedness between concepts and therefore promptly forget previous content as they move through the curriculum? Using a Problem String as a teaching tool is a way for students to use their own reasoning and make sense of math. In this interactive session, participants will have the opportunity to engage in two problem strings and see for themselves how empowering math can be when you use what you know! Make sure to bring paper and something to write with to truly experience a strategy that can really help your students realize that math, as Pam Harris says, is Figuroutable.</p>	Wooster

12:40pm – 1:40pm	A	<p>Mathematics (Re)Designed: How to Use Language-Responsive Teaching and Learning Techniques</p> <p><i>Speakers: Susan Budde</i></p> <p>Guided by the disciplines of second language acquisition theory and learner experience design, the presentation is more of a workshop to assist math educators in tailoring mathematical activities to facilitate language acquisition and enhance instructional outcomes, student engagement, deep conceptual understanding, and a supportive learning environment.</p> <ul style="list-style-type: none"> • Participants will examine Mathematical Language Routines and Thinking Routines • Participants will select language-responsive routines/activities/strategies to apply to their content area. • Participants will create a learning experience that incorporates a Mathematical Language or Thinking Routine. 	Chapel
12:40pm – 1:40pm	5	<p>Access for All: Planning Entry Points for Problem Solving</p> <p><i>Speakers: Robin Moore</i></p> <p>In the ever-evolving landscape of mathematics education, the quest for providing students with the tools and strategies to excel in problem solving is paramount. This session is your opportunity to dive deep into a world of innovative and inclusive instructional strategies that empower students to unlock their mathematical potential. We will explore math language routines and culturally responsive strategies that can address the needs of students who lack background knowledge or are multi-lingual language learners.</p>	York
12:40pm – 1:40pm	5	<p>Struggling for Success- Productive Struggle in Math Class</p> <p><i>Speakers: Stacey Daly, Rene Chin, Nick Merullo</i></p> <p>How can we get students to work independently and persevere through math problems? In this workshop, you will learn strategies for promoting productive struggle in math. Participants will learn how to set up and create a community of learners ready to engage in productive struggle. Then, they will consider how to open up tasks so students can learn to make meaning of the math concepts for themselves. Instructional routines such as the types of problems we give students, how to answer questions and avoid rescuing student thinking, random grouping and using non-permanent vertical boards will be shared as strategies for promoting productive struggle.</p>	Church
12:40pm – 1:40pm	R	<p>Roundtable on Curricular Focus</p> <p><i>Speakers: John Keogh</i></p> <p>This is a moderated roundtable discussion about the topics we choose to focus on with our limited instructional time. Possible discussion questions include:</p> <ol style="list-style-type: none"> 1. One of the most important resources we must value in our work as mathematics educators is instructional time. We must spend sufficient time on concepts and standards that are most important for future graduates entering an ever-changing world. However, it is important to use more than gut reactions or long-held traditions to determine what is important. How can we determine what is important? 2. We must also examine curricular content to find what we can omit or de-emphasize. Our current curriculum is often too wide for many of our students, which greatly contributes to the inequities so persistent in mathematics education. Again, it is important not to remove topics without careful consideration. How can we determine what to de-emphasize? 3. How do we share these ideas with others to make collaborative, well-thought-out, and lasting changes? 	Ballroom B
12:40pm – 1:40pm	R	<p>Roundtable with Annie Fetter</p> <p><i>Speakers: Annie Fetter</i></p> <p>This is a moderated roundtable discussion with keynote speaker, Annie Fetter.</p>	Ballroom A
1:50pm – 2:50pm	3	<p>Fractions Don't Have to be Frustrating!</p> <p><i>Speakers: Kevin Dykema</i></p> <p>How can I help students understand fractions? Come see how using manipulatives can help students understand fraction concepts. Discover why they are a powerful tool; ideas will be shared for equivalence, ordering, and operations with fractions!</p>	College A

1:50pm – 2:50pm	6 High Tech goes Low Tech: Pairing The Desmos Curriculum with Building Thinking Classrooms	College B
	<i>Speakers: Carla Bidwell</i> What happens when you combine two highly effective but different teaching styles? In this session, participants will learn strategies for pairing the digital Desmos curriculum with hands-on strategies from Building Thinking Classrooms. The result is high engagement, deep thinking, and more independence in students.	
	Participants will begin by discussing ways to adapt each of the 14 practices in the book Building Thinking Classrooms in Mathematics to work with Desmos activities. Considerations include groupings and the ratio of devices to students, task cards and thin slicing on vertical non-permanent surfaces, self-checking, and knowledge mobility. Next, the presenter will walk participants through the two key considerations that need to be made when adapting a Desmos activity to the Thinking Classroom model. Finally, participants will apply their learning either by analyzing pre-selected demos activities or by working through their own lessons.	
1:50pm – 2:50pm	6 Opening Windows, Mirrors, and Sliding Doors through Ethnomodeling Tasks	Whalley
	<i>Speakers: Siddhi Desai</i> In this presentation participants will engage in ethnomodeling tasks which authentically delve into human experiences, and provide students the opportunity to experience the world around them through a window, mirror, or sliding glass door. Through such an approach teachers can attend to both students' cultures and identities while also maintaining a focus on deep and meaningful mathematical content.	
1:50pm – 2:50pm	6 Terrific Tangrams: Deep Dive into Geometry through Paper Arts for All Ages	Witney
	<i>Speakers: Paula Krieg, Karen Campe</i> Take a deep dive into symmetry, area, fractions, angles, similarity and more using Tangram shapes we will create together in this hands-on workshop. Engage your students in accessible paper activities, and unlock mathematical language and concepts for students in middle school or high school geometry. These low-floor, high-ceiling STEAM tasks will bring the joy of origami and paper arts to your math class.	
1:50pm – 2:50pm	8 Visual Access to Mathematics: Exploring Strategies to Support Multilingual Learners in the Mathematics Classroom	George B
	<i>Speakers: Johannah Nikula, Pamela Buffington, Rachael Turkington</i> In this session, we will explore how mathematical diagrams can facilitate participation in mathematical problem solving and discourse for English learners/multilingual learners (ELs/MLs). Participants will engage with a mathematics task with embedded language supports and examine student work from middle grades ELs/MLs to identify mathematical thinking and discuss instructional moves. We will consider how strategies, structures, and questions can facilitate ELs'/MLs' engagement and agency in mathematics class, drawing on research about how diagrams and language strategies can highlight ELs'/MLs' strengths. Participants will hear from an educator who currently uses these strategies and will have opportunities to reflect on implications for their own contexts.	
1:50pm – 2:50pm	9 Closing the Gaps From The Classroom to College and Career	Church
	<i>Speakers: Yvonne Daniels, Richard Cordaway</i> Educators will begin to reflect on their current practices and the mathematics content offered in 9-12. By the end of the session educators will address their own belief gaps in how students engage in the content of mathematics in order to rethink the sequencing of mathematics content. Educators will also evaluate the "why" of what we teach to help understand the connections with student choice in college and career. We will strategize together on ways we can move education to create and recreate policies and practices to build greater educational communities for all student	
1:50pm – 2:50pm	9 Five Rich Problems Encompassing The Standards For Mathematical Practice	Wooster
	<i>Speakers: Jay Schiffman</i> This hands-on workshop features five rich problems selected from algebra, geometry, precalculus, probability and number theory encompassing one or more of the standards for mathematical practice. Participants will explore connections among the various branches of mathematics.	

1:50pm – 2:50pm	A	Class Openers and Quick Games to Foster Numeric, Algebraic, and Geometric Thinking <i>Speakers: David Poras</i>	George A
		Come learn some new class openers, games, and puzzles to spark student engagement. Participants will play a variety of quick games, openers, and puzzles to experience for themselves how these help promote numeracy skills, algebraic thinking, and geometric understanding. Some of the games shared will be able to be played both virtually and with physical objects, while some of the games are best suited to be played with the free virtual tools on Desmos Classroom and Polypad, a free resource with virtual manipulatives.	
1:50pm – 2:50pm	A	Reframing the Classroom: Spiraling Curriculum and Portfolio Based Assessment <i>Speakers: Kyle Ferreira van Leer</i>	Temple
		In this interactive session, teachers will reimagine their existing classroom structures in more equitable ways through spiral curriculums and portfolio-based assessment. Spiraling supports students by allowing repeated interaction with topics throughout the year. Teachers will pair spiraling with portfolio-based assessment, centering student voice and choice. Participants can expect to decompose standards, sort learning targets into spirals, and explore uses of single-point rubrics. While we will use middle school examples, all teachers are welcome.	
1:50pm – 2:50pm	K	Using Thinking Classroom Structures in the K-2 Classroom <i>Speakers: Robyn Tedesco, Sara Barthel, Elizabeth Nawrocki</i>	Chapel
		This presentation will provide participants with an overview of the building thinking classroom (BTC) practices. The presenters will share how their experience in the schoolwide math lab changed the way they thought about mathematics instruction. We will highlight changes that the k-2 teachers made to their delivery of math instruction and the physical classroom space.	
1:50pm – 2:50pm	5	Advancing Equity in Mathematics Education Within and Beyond Math Class Through Discourse <i>Speakers: Tutita Casa, Emily Buffmack, Britney Heyse, Heidi Luis-Fuentes, Kayla Rivera, Amanda York Schuman, Anna Strauss, Erin Suech, Jenna Waggoner, Isabelle White, Mhret Wondmagegne</i>	York
		Join us to learn how we addressed calls in the Equity in Mathematics Education: A Joint Position Statement for Connecticut. We first will share an overview of the Comprehensive Mathematical Discourse Framework that informed action research projects conducted by teams of master's-level elementary preservice teachers. Then, teams will share how they supported the development of students' positive mathematics identities. One team developed a game fostering reasoning about relational thinking, another implemented an interactive bulletin board to increase students' voices, and the third explored how oral peer-to-peer feedback supported multilingual learners' written mathematical discourse in ways that promoted students' reasoning.	
1:50pm – 2:50pm	R	Roundtable on the Joint Equity Statement <i>Speakers: Robin Moore</i>	Ballroom B
		This is a moderated roundtable discussion about <i>Equity in Mathematics Education: A Joint Position Statement for Connecticut</i> . Possible discussion questions include: <ol style="list-style-type: none"> 1. Reflect on your classroom, school, or district. In what ways are you moving towards the three central commitments and five essential conditions? 2. Which of the three central commitments and five essential conditions could be the next steps for your classroom, school, or district? 3. What are the barriers to those changes? How can you navigate those barriers? 	
1:50pm – 2:50pm	R	Roundtable with Dr. Nicki Newton <i>Speakers: Nicki Newton</i>	Ballroom A
		This is a moderated roundtable discussion with our keynote speaker, Dr. Nicki Newton.	

3:00pm – 4:00pm	6	STEM & Our Military: Real-life Connections & Classroom Activities for Teaching Core Math Concepts <i>Speakers: Kelly Remijan</i> 6-12th grade educators plus teacher educators will discover STEM connections across all branches of the military (Combat Vehicles-GPS-Drones-Aircraft-SONAR-Carriers +) that relate to math concepts (Area-Ratios-Solving Equations, Graphing, Functions, Circles,+). Attendees will acquire classroom activities to engage students with real-life examples that enhance instruction, inspire learning, & promote opportunities for students. Attendees will receive a FREE electronic guide with lots of resources!	Church
3:00pm – 4:00pm	8	Culturally Responsive Teaching in Mathematics <i>Speakers: Jocelyn Dunnack</i> Learners thrive when content is meaningful and accessible, taught in safe classroom environments. Experience how Culturally Responsive Teaching achieves this in mathematics, reflecting on how brain systems and culture shape learning.	Chapel
3:00pm – 4:00pm	9	Finding Opportunities for Meaningful Justification in Algebra <i>Speakers: Emily Napear, Sarah Bump, Jeremy Crouse</i> Our Algebra 2 team has been working to increase justification in our curriculum for the past two years. Join us to learn about some topics from beginning and advanced algebra we've found useful and productive for engaging students in justification activity. We'll talk about how we identified topics to focus on and what we did to provide access for all of our students. You'll have time to work with another teacher to identify areas in your curriculum that you can add in more meaningful justification and how you can scaffold supports to help your students.	College B
3:00pm – 4:00pm	A	Creating trauma-free classrooms where students learn to find joy in math <i>Speakers: Odena LaFreniere, Abbie Calvert</i> Get ready to discover the powerful impact that brain science has on math education! This presentation will reveal the truth about math trauma and its impact on the brain's ability to learn. We'll take a deep dive into the root causes of math trauma and explore ways to create classrooms that empower students and are full of joy. By doing so, we can help students overcome their anxiety and embrace the wonder of mathematics.	Witney
3:00pm – 4:00pm	A	Is it Working? Seeing Success Beyond Test Scores <i>Speakers: Bob Janes</i> We often think that a successful classroom is a high achieving classroom, but what is measurable is often not the same as what is valuable. This session explores one district's effort to collect, reflect, and take action based on street data: the fine-grained information that can only be gathered by listening to individual students, parents, and teachers.	George A
3:00pm – 4:00pm	A	Math in Our World: Elevating Student Identity within Math Language Routines <i>Speakers: Naomi Dupre-Edelman</i> Engaging students in meaningful real world mathematics learning is a powerful way to create positive connections for students in math class. In this interactive session, participants will join together to find real-world math around them. Then we will discuss how to blend these representations with the Math Language Routines as a way to provide powerful opportunities for students to understand mathematical ideas and build their mathematical discourse while celebrating their diverse backgrounds.	York
3:00pm – 4:00pm	K	Think Tanks! Little Minds Can Think About Big Ideas! Empower Young Mathematicians to Make Their Thinking Visible in the Elementary Math Classroom! <i>Speakers: Susan Austin, Danielle Legnard</i> We truly believe Little Minds Can Think About Big Ideas! Think Tanks are a way to engage students in problem solving from a very early age! Empower students to make their thinking visible in the elementary classroom by designing tasks that support a culture of inquiry, curiosity and flexibility! You will leave this session with Think Tanks to use the very next day!	Whalley

3:00pm – 4:00pm	5 5+1 PRACTICES IN A THINKING CLASSROOM	Temple
	<i>Speakers: Brendan Scribner</i>	
	Join me as we model and explore using Exemplars performance tasks framed within a “Thinking Classroom.” We’ll practice launching a task, and understanding how to mobilize knowledge using random groups and vertical thinking spaces. As a learning facilitator, I’ll practice using the 5+1 Practices for Orchestrating Productive Discussions.	
3:00pm – 4:00pm	5 Mathematize Your School	College A
	<i>Speakers: Jacqueline Giordano, Jessica Scandurra</i>	
	Participants will learn ways in which we have mathematized our schools to create a community of learners who love and are excited about math. Participants will learn practical ways to infuse math throughout their building with experiences such as: chalk walks, math hallways, take-home family activities, whole school/district projects and much more!	
3:00pm – 4:00pm	5 Supporting Mathematical Fluency Through Centers	Wooster
	<i>Speakers: Lindsey Ramos, Jessica Kazigian</i>	
	In this workshop participants will engage with a few mathematical centers that support the K-3 fluencies with operations and algebraic thinking and 4-5 fluencies with number and operations in base ten. Participants will then learn how to navigate the Illustrative Mathematics resources where they will gain free access to over 50 centers and reflect on how they could integrate these centers into their current practice.	
3:00pm – 4:00pm	R Roundtable on Building Thinking Classrooms (6-12)	Ballroom B
	This is a moderated roundtable discussion about the Building Thinking Classrooms model of instruction as it applies to grades 6-12. Possible discussion questions include:	
	<ol style="list-style-type: none"> 1. What parts of the book <i>Building Thinking Classrooms</i> by Peter Liljedahl have you implemented in your classroom? 2. Where are you experiencing success? How do you know you're experiencing success? Why are you experiencing success? 3. Where are you finding challenges? What are some ways you could navigate those challenges? 	
3:00pm – 4:00pm	R Roundtable on the Future of Technology in Education	Ballroom A
	This is a moderated roundtable discussion about the future of technology in mathematics education. Possible discussion questions include:	
	<ol style="list-style-type: none"> 1. In what ways has technology already changed the landscape of math education? This may include interactive websites and applets like Desmos, Geogebra, and Polypad; the use of social media for teachers and students; and more. In what ways has technology supported teaching and learning? In what ways has it challenged teaching and learning? How have we navigated those challenges? 2. In what ways do we see technology currently impacting math education? This may include the near ubiquity of one-to-one devices, the use of technology on standardized assessments, the future of artificial intelligence, and more. In what ways will technology support teaching and learning? In what ways will it challenge teaching and learning? How will we navigate those challenges? 	