

PROGRAM



# *NCTM 2021* Virtual Conference



*Reimagining Mathematics Education:  
Learning from the Past in Order to Move Forward*

FEBRUARY 1–6



NATIONAL COUNCIL OF  
TEACHERS OF MATHEMATICS

[nctm.org/virtual2021](https://nctm.org/virtual2021)  
[#NCTMVirtual2021](https://twitter.com/NCTMVirtual2021)

## Monday, February 1

### 1 [Hidden Figures in Mathematics Education](#)

2/1/2021 | 6:30 PM – 8:00 PM EST

► **LIVE** Session

## Tuesday, February 2

All OnDemand presentations for the day will be released at 8:00 AM EST



### 1.01 [Key Imagery for Building Fact and Computational Fluency in K-Grade 2](#)

 Workshop

### 2 [Using Design Thinking Principles to Partner with Black and Latinx Parents for Their Increased Engage](#)

 Session

### 5 [Strategies to Support English Language Learners in the Mathematics Classroom](#)

 Workshop

### 8 [Shifting from Math Talk to Math Discourse with Student Debriefs](#)

 Session

### 9 [Using Labels as Building Blocks Instead of Boxing Them In](#)

 Session

### 10 [Writing Their Own Way: Getting Your Students to Explore Their Mathematical Ideas](#)

 Workshop

### 11 [The Progression of the Area Model: How It Benefits All Students](#)

 Session

### 12 [Math Is Not My Thing: Closing the Achievement Gap and Creating Equity Through Self-Efficacy](#)

 Session

### 13 [If the Rules Expire, You Must Inquire: Teaching Mathematics for an Unknown Tomorrow](#)

 Session

### 14 [Building Bridges Across the Gaps: From Prior Knowledge to Grade-Level Content](#)

 Session

### 17 [Unlocking the Potential of Literacy Practices in Mathematics Learning](#)

 Burst

### 18 [Building Mathematical Confidence in Your Students](#)

 Workshop

### 20 [Concrete Practices to Support Equity and Access in the Mathematics Classroom](#)

 Burst

### 304 [Preservice Teachers' Experience on Three Act Math Task Project](#)

 Burst

### 23 [S3D: Fostering and Improving Small-Group, Student-to-Student Discourse](#)

 Session

### 24 [Dyslexia and the Math Learner](#)


















 Burst

### 25.1 [Designing Innovation and Engineering Creativity with Grants for Mathematics Educators](#)

 Session

### 29 [Planning for Equity](#)

 Session












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| <p>30 <a href="#"><u>Promoting Social Change: Implementing a Service-Learning Project in a Statistics Class</u></a><br/>  Session</p> <p>31 <a href="#"><u>The Right Questions: Empowering Teachers Through Coaching Conversations</u></a><br/>  Session</p> <p>32 <a href="#"><u>Using an Analysis of Common Error Patterns to Support Learners' Posing of Multi-step Word Problems</u></a><br/>  Session</p> <p>35 <a href="#"><u>Playing the Long Game</u></a><br/>                 2/2/2021   3:30 PM – 4:30 PM EST<br/>  Session</p> <p>36 <a href="#"><u>Strategic Use of Games to Support Basic Fact Fluency</u></a><br/>                 2/2/2021   3:30 PM – 4:30 PM EST<br/>  Workshop</p> <p>38 <a href="#"><u>Creating a Classroom Where Timely Assessments Inform Instructional Decisions</u></a><br/>                 2/2/2021   3:30 PM – 4:30 PM EST<br/>  Workshop</p> <p>39 <a href="#"><u>Start Big, Start Small, Just Start: Building Competencies for Mathematical Modeling</u></a><br/>                 2/2/2021   3:30 PM – 4:30 PM EST<br/>  Workshop</p> <p>40 <a href="#"><u>Supporting Exemplary Mathematics Teaching and Learning in Schools</u></a><br/>                 2/2/2021   3:30 PM – 4:30 PM EST<br/>  Session</p> <p>41 <a href="#"><u>Math Running Records in Action: Assessing Basic Fact Fluency</u></a><br/>                 2/2/2021   5:00 PM – 6:00 PM EST<br/>  Session</p> | <p>54 <a href="#"><u>Assisting Students Who Struggle with Mathematics in a Multi-Tiered System of Support (MTSS)</u></a><br/>                 2/2/2021   5:00 PM – 6:00 PM EST<br/>  Session</p> <p>45 <a href="#"><u>The Status Quo in High School Mathematics Is Unacceptable</u></a><br/>                 2/2/2021   5:00 PM – 6:00 PM EST<br/>  Session</p> <p>46 <a href="#"><u>The I'm W.O.K.E. Project: Widening Options Through Knowledge and Empowerment</u></a><br/>                 2/2/2021   5:00 PM – 6:00 PM EST<br/>  Workshop</p> <p>311 <a href="#"><u>Catalyzing Change Through Lesson Study Overview: Implementing Equitable Mathematics Instruction</u></a><br/>                 2/2/2021   5:30 PM – 6:30 PM EST<br/>  Session</p> <p>47 <a href="#"><u>Six Actions for Productive Struggle</u></a><br/>                 2/2/2021   6:30 PM – 7:30 PM EST<br/>  Workshop</p> <p>48 <a href="#"><u>We Notice and Wonder What? Using Notice and Wonder as a Tool for Critical Reflection and Engagement</u></a><br/>                 2/2/2021   6:30 PM – 7:30 PM EST<br/>  Session</p> <p>49 <a href="#"><u>Developing Mathematicians with Identity and Agency</u></a><br/>                 2/2/2021   6:30 PM – 7:30 PM EST<br/>  Workshop</p> <p>50 <a href="#"><u>Six Secrets of Highly Effective Mathematics Instruction</u></a><br/>                 2/2/2021   6:30 PM – 7:30 PM EST<br/>  Session</p> |
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- 51 [Integrate Problem Solving, Math Modeling, Technology, and Relevant Data with Important Social Issues](#)  
2/2/2021 | 6:30 PM – 7:30 PM EST  
▶ **LIVE** Workshop
- 52 [Improving Student Achievement Through Engaging and Equitable Lesson Design and Collaboration](#)  
2/2/2021 | 6:30 PM – 7:30 PM EST  
▶ **LIVE** Session
- 313 [Catalyzing Change Through Lesson Study Discussion: Implementing Equitable Mathematics Instruction](#)  
2/2/2021 | 6:30 PM – 7:30 PM EST  
▶ **LIVE** Session
- 42 [Doing the Math: Tasks to Engage and Challenge](#)  
2/2/2021 | 8:00 PM – 9:00 PM EST  
▶ **LIVE** Session
- 55 [Six Strategies for Developing Understanding in the Middle Grades](#)  
2/2/2021 | 8:00 PM – 9:00 PM EST  
▶ **LIVE** Session
- 56 [Three Habits to Eliminate the Phrase ‘Math Is Boring!’](#)  
2/2/2021 | 8:00 PM – 9:00 PM EST  
▶ **LIVE** Workshop
- 57 [Basic Group Theory for All Students](#)  
2/2/2021 | 8:00 PM – 9:00 PM EST  
▶ **LIVE** Session
- 58 [Reimagining Family Involvement with Family Math Game Nights](#)  
2/2/2021 | 8:00 PM – 9:00 PM EST  
▶ **LIVE** Session

## Wednesday, February 3

All OnDemand presentations for the day will be released at 8:00 AM EST



- 59 [The Problem with Word Problems](#)  
 Session
- 60 [The Decomposition of Number Sense](#)  
 Workshop
- 62 [Developing Mathematical Practices Through Computational Thinking](#)  
 Workshop
- 63 [Developing Justification in ALL Students Through the Decide and Defend Instructional Routine](#)  
 Workshop
- 64 [Fractions: From Misunderstanding to Deep Understanding](#)  
 Workshop
- 65 [#makemathstick \(Conceptual Understanding and Reasoning with Fractions 3-5\)](#)  
 Workshop
- 66 [Measures of Center](#)  
 Session
- 67 [Using Desmos in Elementary Grades](#)  
 Session
- 68 [Jump-start Your Lessons with High-yield Routines](#)  
 Session
- 69 [Math for ELLs: As Easy as Uno, Dos, Tres](#)  
 Session
- 70 [Sense Making: Aren't We Already Doing That in Literacy?](#)  
 Session

71 [Where Are We, and Where Do We Want to Go? Assessing Students' Level of Geometric Reasoning](#)

 Burst

74 [Scaffolding Instruction for All Learners with Desmos Activity Builder](#)

 Session

75 [Deep Learning Through Effective Collaborative Classroom Structures](#)

 Burst

77 [Who Do You Think You're Talking To? Using Mathematical Discourse in the Classroom](#)

 Workshop

78 [Rich Tasks + Optimism + Perseverance = Growth Mindset in the Mathematics Classroom](#)

 Workshop

79 [Going Viral: Getting Started with Epidemiological Modeling](#)

 Burst

80 [Yes, We Use It: Applications of Proportional Reasoning in High School Math and Science Lessons](#)

 Workshop

81 [Flip the Switch - Getting Students to Own Their Learning](#)

 Workshop

84 [Algebra Task Makeover with Desmos Activity Builder](#)

 Session

86 [Building Financial Literacy For All Learners](#)

 Session

92 [Cultivating Teacher-leaders' Capacity to Teach Mathematics Responsively: A Practice-based Approach](#)

 Workshop

94 [Empowering Mathematics Leaders](#)

 Workshop

314 [Catalyzing Change Through Lesson Study: Implementing Equitable Mathematics Instruction](#)

2/3/2021 | 11:30 AM – 12:30 PM EST

► **LIVE** Session

95 [Helping Kids Make Sense of Addition & Subtraction Strategies](#)

2/3/2021 | 3:30 PM – 4:30 PM EST

► **LIVE** Session

96 [Not Just Fun and Games: An Intentional Approach to Choosing Math Workstation Tasks](#)

2/3/2021 | 3:30 PM – 4:30 PM EST

► **LIVE** Workshop

97 [Teaching Math Through a Social Justice Lens](#)

2/3/2021 | 3:30 PM – 4:30 PM EST

► **LIVE** Session

## Virtual Escape Room

**Feeling competitive? Register for one of three Virtual Escape Room events.**

Participants will work together to solve interactive online puzzles. Work with your team by talking out loud and drawing on the screen to figure out codes. Instead of inputting them into a lock, you give the correct codes to your game master to advance to the next stage of the game. You successfully escape and win when your team correctly solves the final puzzle!

Registration is \$25; choose one date.

**February 1, 4:30 pm EST**

**February 3, 12:30 pm EST**

**February 5, 9:15 pm EST**

To register, contact **ConferencesDept@nctm.org**

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| <p>98 <a href="#"><u>Challenge Accepted! Use Project Based Learning to Finally Explore Social Justice in Algebra Class</u></a><br/>2/3/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>99 <a href="#"><u>The Mathlexia Odyssey – Seeing Math Through Colourful Eyes</u></a><br/>2/3/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>100 <a href="#"><u>The Questions Come to Mind</u></a><br/>2/3/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>101 <a href="#"><u>Hidden in Plain Sight: Seeking Out the Brilliance of All Students in the Math Classroom</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>102 <a href="#"><u>The Search for Structure and Regularity: An Essential Element for Deep Learning</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>103 <a href="#"><u>A Former Math Hater's Strategies for Combating Math Anxiety in Students</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>312 <a href="#"><u>A Pathway to Equitable Mathematics: Dismantling Racism in Math Instruction</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>105 <a href="#"><u>Curiosity-Provoking Strategies for High School Mathematics</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>106 <a href="#"><u>How Does Teaching Numerical Reasoning Benefit the Whole Child?</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> | <p>19 <a href="#"><u>President's Address: Journey from Conversation to Action: Catalyzing Change Across Pk-12 Mathematics to Move Us Forward</u></a><br/>2/3/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>309 <a href="#"><u>Unpacking Mathematical Microaggressions: #BlackKidsDoMath</u></a><br/>2/3/2021   6:30 PM – 7:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>108 <a href="#"><u>Strengths-Based Mathematics Teaching Turnarounds: Celebrating and Promoting Students' Personal Power</u></a><br/>2/3/2021   6:30 PM – 7:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>109 <a href="#"><u>Fluency in the Upper Grades and Beyond: What It Looks Like and How to Build It</u></a><br/>2/3/2021   6:30 PM – 7:30 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>110 <a href="#"><u>Focusing on Relevant Contexts and Mathematical Connections Through Equitable Teaching Practices</u></a><br/>2/3/2021   6:30 PM – 7:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>111 <a href="#"><u>Student Exploration of Geometric Series and Further Topics in Series Using Exploding Dots</u></a><br/>2/3/2021   6:30 PM – 7:30 PM EST<br/>▶ <b>LIVE</b> Burst</p> <p>112 <a href="#"><u>Secure Your Mask: Extreme Ownership of Identity, Agency, and Fostering Social Change</u></a><br/>2/3/2021   6:30 PM – 7:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>113 <a href="#"><u>"It's Always About Race" Ability Grouping in Mathematics</u></a><br/>2/3/2021   8:00 PM – 9:00 PM EST<br/>▶ <b>LIVE</b> Session</p> |
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## Wednesday, February 3 *continued*

### 114 [Problem Solving in a Mathematically Literate Environment: Going Beyond Surface Level](#)

2/3/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Session

### 115 [Telling it From the Heart: Using Role Models to Help Foster Students' Positive Mathematics Identity](#)

2/3/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Burst

### 116 [Creating Mathematics Classrooms for ALL Learners](#)

2/3/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Workshop

### 117 [Leading Students Across the Threshold](#)

2/3/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Session

### 118 [Math Games Are Not Just for the Fast Finishers: Building an Inclusive Math Games Program](#)

2/3/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Workshop

### 123 [Hearing All Voices: Structures to Build Language and Content Understanding of Each and Every Student](#)

 Workshop

### 124 [Math Sheltered Instruction for ELs and All Learners](#)

 Workshop

### 126 [Class Starters Get a Re-Start](#)

 Session

### 128 [Modeling Strategies to Integrate Hands-on Activities That Will Create an Inclusive Environment](#)

 Burst

### 130 [Grow Mathematicians with a Splash of Differentiation](#)

 Session

### 133 [Supporting the Development of Number Sense for Students with Language-Based Learning Differences](#)

 Session

### 134 [Building Mindsets for Excellent Problem Solvers](#)

 Session

### 135 [Creating School-wide Cultures of Mathematical Sense Making](#)

 Session

### 137 [Want to Develop Fluency with Functions? Algebrafy Patterns!](#)

 Session

### 138 [Four Inspiring Stories: Teachers Harness ASSISTments from WPI to Drive Their Teaching with Data](#)

 Session

### 139 [Tackling Ratio Reasoning with Real Tasks](#)

 Workshop

## Thursday, February 4

All OnDemand presentations for the day will be released at 8:00 AM EST



### 119 [Becoming the Mathematics Teacher You Wish You'd Had](#)

 Burst

### 120 [Developing Number Sense with Number Bonds](#)

 Session

### 121 [Centers-based Instruction Without Losing Your Sanity](#)

 Session

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| <p>140 <a href="#">Word Problems Made Easy</a><br/>🎧 Workshop</p> <p>142 <a href="#">Facilitating Meaningful Mathematics Discourse with NCTM's Problems of the Week</a><br/>🎧 Workshop</p> <p>143 <a href="#">The Feedback Our Students Need</a><br/>🎧 Workshop</p> <p>144 <a href="#">Opening-up Multiple Entry points for ALL of Our Students to Engage with Mathematics on a Daily Basis</a><br/>🎧 Burst</p> <p>308 <a href="#">I Know, You Know, We All Know—Access for All</a><br/>🎧 Session</p> <p>148 <a href="#">Beyond Providing Access: A Framework for Trusting Our Students to Do the Math</a><br/>🎧 Session</p> <p>149 <a href="#">Building Collective Responsibility for Students' Mathematics Learning</a><br/>🎧 Workshop</p> <p>152 <a href="#">Hooks, Lines, and Thinkers</a><br/>🎧 Session</p> <p>155 <a href="#">Social Justice Mathematics: The Power of Solving Meaningful Issues Through a Mathematical Lens</a><br/>🎧 Session</p> <p>156 <a href="#">Number Sense Strategies: Building the Foundation of Mathematics</a><br/>2/4/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>158 <a href="#">Three Engaging Methods to Uncover and Fix Hidden Student Misconceptions</a><br/>2/4/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Session</p> | <p>159 <a href="#">Creating Discourse Through Math Language Routines</a><br/>2/4/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>160 <a href="#">Conic Sections: Put the Power of Discovery in Your Students' Hands</a><br/>2/4/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>161 <a href="#">Masterclass: How to Transform Mathematical Mindsets from Theory to Application</a><br/>2/4/2021   3:30 PM – 4:30 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>104 <a href="#">Improving Math Literacy Through Desmos Activity Builder</a><br/>2/4/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>162 <a href="#">Math Is NOT a Universal Language: Access and Equity for all Mathematics Language Learners (MLLs)</a><br/>2/4/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>163 <a href="#">Five Essential Strategies for Engaging Every Student in Math Thinking and Reasoning</a><br/>2/4/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>164 <a href="#">Up for Debate! Empowering Students Through Argumentation in Math Class</a><br/>2/4/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> <p>165 <a href="#">Mosaic Coloring Book: The Implementation of a Project Connecting Math to Social-emotional Wellness</a><br/>2/4/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Workshop</p> <p>53 <a href="#">Responsive and Relevant to Whom?: Towards Equity by Design</a><br/>2/4/2021   5:00 PM – 6:00 PM EST<br/>▶ <b>LIVE</b> Session</p> |
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167 [Humanizing Black Girls Mathematics Experience: Cultivating Their Mathematics Identity and Agency](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

168 [The Three Most Misused Mathematical Representations](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

169 [The Power of Gradual Reveal in Nearly Everything We Teach](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

170 [Encourage Deeper Math Conversations Through Visualization](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

171 [Connecting Trigonometry to Geometry](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Burst

172 [Bringing Culturally Relevant Mathematics to St. Paul Public Schools](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

315 [Catalyzing Change Through Lesson Study Debrief: Implementing Equitable Mathematics Instruction](#)

2/4/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

173 [Morning Math Circle: Teaching Mathematics Through Culturally Relevant Literature \(Grades K-3\)](#)

2/4/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Burst

174 [Math Educational Leaders Guide to Technology Integration](#)

2/4/2021 | 8:00 PM – 9:00 PM EST

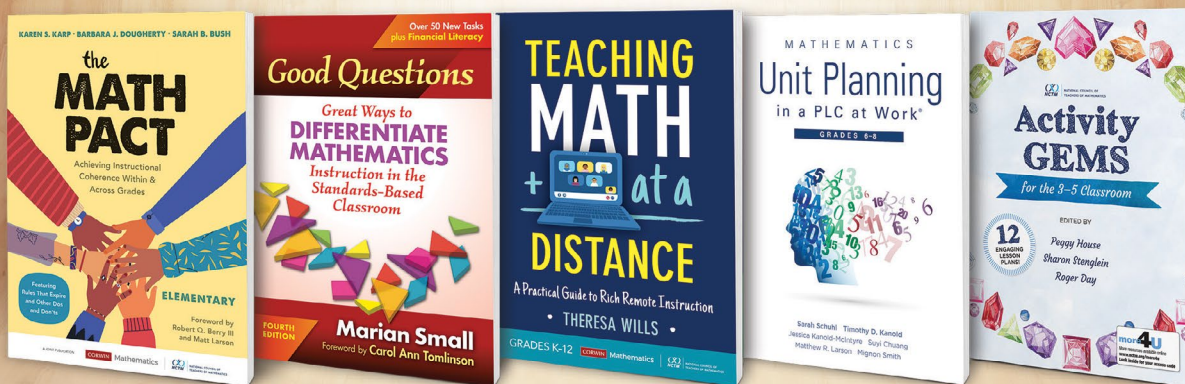
► **LIVE** Session

175 [How to Transform Your Textbook into a Curiosity Machine](#)

2/4/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Session

## NEW FROM NCTM PUBLICATIONS



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Visit the event bookstore to purchase



NATIONAL COUNCIL OF  
TEACHERS OF MATHEMATICS

## 176 [Application Problems in Algebra 1 and Implications for Later Courses](#)

2/4/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Workshop

## 177 [Things You Should Know That Your Students Learned About Math in Science Class](#)

2/4/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Burst

## 178 [Optimizing Learning Opportunities for Each and Every Learner](#)

2/4/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Session

## 184 [Identifying and Implementing High-Quality Math Tasks to Promote Reasoning and Sense Making](#)

 Burst

## 185 [Three Keys to Increasing Meaningful Mathematical Discourse in Your Classroom](#)

 Session

## 186 [How to Put the “Productive” into the “Struggle” in the Math Classroom](#)

 Session

## 187 [Time’s Up on Timed Tests: Math Fact Strategies That Work](#)

 Session

## 188 [Mathematize Your Classroom! Making Anchor Charts and Word Walls Accessible to All Students](#)

 Session

## 189 [Teaching Fractions Without Telling: Task Sequences Based on Learning Trajectories](#)

 Session

## 190 [Mooving and Grooving: Incorporating the Arts into Math](#)

 Burst

## 191 [The Language of Word Problem Comprehension](#)

 Workshop

## 192 [Number Lines 101: The Fundamentals](#)

 Workshop

## 193 [Motivating Students to Shift from “I Can’t” to “Look at Me”](#)

 Workshop

## 194 [Where Am I? Formatively Assessing Student Spatial Awareness Using GeoGebra 3D with Augmented Reality](#)

 Workshop

## Friday, February 5

All OnDemand presentations for the day will be released at 8:00 AM EST



## 179 [Algebra Isn’t Just When the Letters Show Up: Exploring Variables in Elementary Grades](#)

 Burst

## 180 [Using Children’s Literature in Building Inclusion in the Classroom](#)

 Session

## 181 [Math and Language Arts: What Can They Have in Common?](#)

 Burst

## 182 [Building Number Line Concepts While Measuring](#)

 Burst

## 183 [Relationships and Retakes: Helping Students Develop a Growth Mindset Through Standards Based Grades](#)

 Session

195 [Math + LD: Teaching for Success](#)197 [It's All Fun and Games Until Someone Loses A Die: Math Games for Middle Years](#)198 [Beyond the Paper-Pencil Assessment: What Else Can You Do to Find Out What Your Students Know?](#)200 [Enhancing Mathematics with Origami: Proofs by Folding](#)201 [Students Own Their Learning by Using GeoGebra in the Geometry Classroom](#)202 [Retro Desmos: Infusing Classroom Instruction with Multiple Representations](#)204 [Using CODAP to Explore Social Justice Questions](#)205 [A Third- or Fourth-year Math Credit for Struggling Students: Advanced Algebra with Financial Applications](#)206 [Revisiting the Traditional Warmup](#)208 [A Hands-on Approach to Developing the Circle Equation: Connecting the Dots for Understanding](#)213 [Promoting Equity for Secondary Mathematics in South Central Los Angeles](#)215 [Implementing Culturally Responsive Mathematics Assessments](#)216 [Assessment Leadership Actions to Monitor and Act on Evidence of Student Learning](#)217 [Engaging Teachers in a Self-reflection of Their Mathematical Teaching Practices](#)127 [Building on Black Girl's Brilliance Through Holistic and Transformative Mathematics Learning](#)

2/5/2021 | 3:30 PM – 4:30 PM EST

218 [Step Back and Let Them Think: Discovering Number Concepts Through Investigations and Math Talk](#)

2/5/2021 | 3:30 PM – 4:30 PM EST

219 [Making Words Count: Writing Across the Curriculum and Beyond](#)

2/5/2021 | 3:30 PM – 4:30 PM EST

220 [Mathematical Language Routines: Cultivating Conversation in High School Classrooms](#)

2/5/2021 | 3:30 PM – 4:30 PM EST

221 [Engaging Students: Instructional Practices to Increase Student Access to Grade-level Math](#)

2/5/2021 | 3:30 PM – 4:30 PM EST

223 [Lead, Collaborate, and Inspire: Empowering Teachers as Math Leaders to Affect Change](#)

2/5/2021 | 3:30 PM – 4:30 PM EST



## 224 [Developing Fact Fluency with Access for All](#)

2/5/2021 | 5:00 PM – 6:00 PM EST

► **LIVE** Session

## 225 [It Takes a Village: Using Family Connections In Mathematics Education](#)

2/5/2021 | 5:00 PM – 6:00 PM EST

► **LIVE** Burst

## 227 [Quad Squad: Using Circles to Build Intuition and Reasoning](#)

2/5/2021 | 5:00 PM – 6:00 PM EST

► **LIVE** Workshop

## 229 [Using Math History and Storytelling to Embrace Equity and Authentic Problem Solving in the Classroom](#)

2/5/2021 | 5:00 PM – 6:00 PM EST

► **LIVE** Session

## NCMT Virtual Conference Special Programming

### [Pre-conference Workshop, February 1, 10:00 AM – 5:00 PM EST](#)

#### **Catalyzing Change in Early Childhood and Elementary Mathematics: Dismantling Inequitable Structures, Nurturing Math Identities, and Planning Actionable Steps**

How might we ensure that each and every child is afforded opportunities to develop into a mathematically confident and capable learner? Join us for a pre-conference session where you will:

- Investigate tasks, children's work samples, and classroom vignettes that highlight exemplary mathematics teaching practices.
- Examine and reflect on the power of mathematical identities for students and teachers.
- Surface and discuss inequitable structures that inhibit children's mathematical agency and hinder access to deep mathematical understanding.
- Develop action steps to initiate needed changes in early childhood and elementary school mathematics.

### **Fitness, Painting and Fun!**

The NCTM Virtual Conference offers several opportunities to take a break from your learning and have fun with your colleagues.

- Mat Pilates with Theresa Pride, February 2, 11:00 AM – 12:00 PM EST
- Zumba by Saadia, February 3, 11:00 AM – 12:00 PM EST
- Strength Training with Krista Fudge, February 4, 11:00 AM – 12:00 PM EST
- Mobility & HITT with Madison Deaton, February 5, 11:00 AM – 12:00 PM EST
- Yoga with Serena Sutter, February 6, 11:00 AM – 12:00 PM EST
- Sip & Paint: February 4, 9:15 – 10:15 PM EST

### **Lunch Jamz**

Tuesday, Wednesday, Thursday, Friday 12:00 – 1:00 PM EST. Stop by the Home Lobby and jam out while DJ J-Smoov spins some tunes.

## 317 [Mathematics for Human Flourishing – Pandemic Edition](#)

2/5/2021 | 5:00 PM – 6:00 PM EST

► **LIVE** Session

## 230 [Listening to and Learning with Black Teachers of Mathematics](#)

2/5/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

## 231 [Teaching Mathematics with Kindness](#)

2/5/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

## 232 [Disrupting Hierarchies of Status: Building Student Agency Through Equitable and Inclusive Teaching](#)

2/5/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

## 233 [Designing Your First Project-based Learning Unit](#)

2/5/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

## 235 [Talk Number 2 Me: Mathematics and Mindfulness](#)

2/5/2021 | 6:30 PM – 7:30 PM EST

► **LIVE** Session

## 237 [Visualizing for Mathematics: Using Bar Diagrams to Make Sense of Story Problems](#)

2/5/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Workshop

## 238 [Let Me Explain: Building Mathematical Identity Through Student Conversations](#)

2/5/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Workshop

## 239 [Geometry Explorations: Discovery at Your Fingertips](#)

► **LIVE** Workshop

## 240 [Cell Phones in a Math Class: A Distraction or a Tool?](#)

2/5/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Session

## 241 [Early Mathematics Matters: Promoting Equity from the Start](#)

2/5/2021 | 8:00 PM – 9:00 PM EST

► **LIVE** Session

## 316 [IGNITE TALK](#)

2/5/2021 | 7:40 PM – 9:30 PM EST

► **LIVE** Session

## Saturday, February 6

All OnDemand presentations for the day will be released at 8:00 AM EST



## 242 [Geometry for Early Childhood: The Important Thing Is . . . ?](#)

 Workshop

## 243 [How Do You Transform “Red-shirt” Freshmen Students to a Graduation Path?](#)

 Session

## 244 [There’s a Book for That: Connecting Young Children to Mathematics Through Children’s Literature](#)

 Session

## 245 [Math Running Records: How One Assessment Has Changed the Math Culture of Districts](#)

 Session

## 246 [The Questions Game](#)

 Burst

## 247 [Minion Mathematics: Make It Fair](#)

 Session



249 [A Math Workshop Classroom for ALL Learners](#)

 Session

251 [Questions Matter: Using a Framework to Support Posing Purposeful Questions](#)

 Session

252 [Problem Solving Using Sheltered English in Math](#)

 Session

253 [Assessment Interviews: Moving Beyond Timed Tests](#)

 Session

254 [Secret Spells and Rainbow Bracelets: Demystifying Fraction Multiplication and Division](#)

 Workshop

256 [Confronting Culture: Recognizing Cultural Bias to Improve Parent Communication](#)

 Burst

257 [Promoting Data Literacy and Applying Math to Real-World Issues: A Hands-on Approach](#)

 Workshop

258 [Every Who Down in Who-ville Liked Math a Lot and Who Would Think Not?](#)

 Workshop

259 [Improving Practice Through Increased Collaboration via Technology](#)

 Session

260 [NASA Aeronautics' Fly by Math: Solving the World's Largest Distance-Rate-Time Problems](#)

 Workshop

262 [Always Play with Your Math: Developing Thinking and Reasoning Through Play](#)

 Session

263 [Just How Realistic Are the Real-world Word Problems in Math Class?](#)

 Burst

265 [Teaching High School Math as Connected to Student Career Interests](#)

 Session

266 [Innovative Individually Paced for Mastery High School Math Program](#)

 Session

267 [Lessons Learned from Teaching Math as a Language](#)

 Session

268 [Design, Discovery, and Discussion with Desmos](#)

 Session

269 [Gerrymandering for Fair Representation](#)

 Session

271 [What Are Infinite Series, and Why Are They Important?](#)

 Session

272 [Create Assessments with Desmos](#)

 Workshop

273 [Build Confidence and Competence with Math in Context: Advanced Algebra with Financial Applications](#)

 Session

274 [A Novel Approach to Math: Using Math as a Form of Literacy to Communicate, Reflect, and Tell Stories](#)

 Workshop

275 [Bisquick® Can Kill You and Other Fun, but WRONG, Facts](#)

 Session



276 [Differentiating Math Instruction Using Stations](#)

 Workshop

277 [Increasing Desmos Love in Your Mathematics Community](#)

 Session

278 [Got Reasoning? Developing Mathematicians Through a Building-Wide Focus on Improving Reasoning Skills](#)

 Session

302 [Making Math Matter: Problem Based Learning to Create Social Change](#)

 Workshop

306 [Sparkling Creativity and Innovation](#)

 Workshop

279 [Positioning Young Learners as Intellectual Leaders: What We Should Be Learning from Our K-2 Students](#)

2/6/2021 | 12:00 PM – 1:00 PM EST

► **LIVE** Session

280 [Exploring Practices to Promote Writing to Reason for All Students](#)

2/6/2021 | 12:00 PM – 1:00 PM EST

► **LIVE** Workshop

281 [Using Problem Solving to Promote Equitable Teaching Practices](#)

2/6/2021 | 12:00 PM – 1:00 PM EST

► **LIVE** Session

282 [Motivate and Engage Your Secondary Students with Innovative, Blended Learning Strategies](#)

2/6/2021 | 12:00 PM – 1:00 PM EST

► **LIVE** Session

283 [Student-centered Inclusive Mathematics Strategies to Go!](#)

2/6/2021 | 12:00 PM – 1:00 PM EST

► **LIVE** Workshop

284 [Teaching Mathematics with Intentionality](#)

2/6/2021 | 12:00 PM – 1:00 PM EST

► **LIVE** Session

# Save the Date!



**Virtual 2021**  
**ANNUAL MEETING**

April 21–May 1

*Join NCTM for the largest professional learning event for mathematics education this year!*

**600+ education sessions, scores of speakers, networking activities, exhibit showcases, and more!**

The NCTM 2021 Virtual Annual Meeting is hosting speakers from around the globe to offer **live presentations April 21–24 and April 28–May 1**, with hundreds of on-demand and community activities available **every day**.

You won't want to miss this virtual experience that will have the math education community buzzing well into the new school year.

Visit [nctm.org/annual](https://nctm.org/annual) for more information and registration rates.



**285** [Whose Math Class? Making Choices That Broaden Cultural Representation](#)

2/6/2021 | 1:30 PM – 2:30 PM EST

► **LIVE** Session

**286** [Empowering Students Through Culturally Responsive Worthwhile Mathematics Instruction](#)

2/6/2021 | 1:30 PM – 2:30 PM EST

► **LIVE** Session

**287** [Step-by-Step: Creating Equitable Environments for ALL in Detracked Honors Algebra and Geometry](#)

2/6/2021 | 1:30 PM – 2:30 PM EST

► **LIVE** Session

**288** [Alternative Strategies, Deep Thinking in Secondary Content? Yes!](#)

2/6/2021 | 1:30 PM – 2:30 PM EST

► **LIVE** Workshop

**290** [Using Lesson Study to Promote the Rights of the Learner: An Exploration into Food Desserts](#)

2/6/2021 | 1:30 PM – 2:30 PM EST

► **LIVE** Burst

**291** [Math Is the Problem: Accessing the Language Is the Solution](#)

2/6/2021 | 3:00 PM – 4:00 PM EST

► **LIVE** Session

**292** [Set Your Sights on Student Success with Guided Math Small-group Lessons](#)

2/6/2021 | 3:00 PM – 4:00 PM EST

► **LIVE** Session

**146** [Looking at Geometry Through the Lens of Culture and Social Justice](#)

2/6/2021 | 3:00 PM – 4:00 PM EST

► **LIVE** Session

**294** [Planning for Engagement: Work Without Worksheets](#)

2/6/2021 | 3:00 PM – 4:00 PM EST

► **LIVE** Workshop

**296** [Developing Teacher Leaders in Mathematics](#)

2/6/2021 | 3:00 PM – 4:00 PM EST

► **LIVE** Session

**303** [Focus on Curriculum Implementation: Measurement Tools to Support Reflection and Facilitate Change](#)

2/6/2021 | 4:30 PM – 5:30 PM EST

► **LIVE** Session

**297** [Intentional Equity Can Be Routine](#)

2/6/2021 | 4:30 PM – 5:30 PM EST

► **LIVE** Workshop

**298** [I Have a Block to Teach Math: Now What?](#)

2/6/2021 | 4:30 PM – 5:30 PM EST

► **LIVE** Session

**299** [Our Grading Practices Can Drive Systemic Change: Designing Assessment Systems for Equity and Agency](#)

2/6/2021 | 4:30 PM – 5:30 PM EST

► **LIVE** Session

**301** [Inclusion Beyond Visibility: Toward Access, Equity, and Empowerment](#)

2/6/2021 | 4:30 PM – 5:30 PM EST

► **LIVE** Session

**310** [Closing Session: Cultivating Connections Through Care and Curriculum](#)

2/6/2021 | 5:45 PM – 6:30 PM EST

► **LIVE** Session

## 320 [Online Teaching Should Be Different from Face-to-Face](#)

2/2/2021 | 9:00 AM – 10:00 AM EST

►LIVE Exhibitor Workshop

Audience: Pre-K to 2

STEMscopes/Accelerate Learning | TX

## 327 [Let's Get Messy! Mathematical Modeling: Engage Your Reluctant Learners Grades K-5, 6-8, and 9-12](#)

2/2/2021 | 10:30 AM – 11:30 AM EST

►LIVE Exhibitor Workshop

Audience: 3 to 5

Savvas Learning Company (Formerly Pearson K-12 Learning) | NJ

## 328 [Promote fluency, Expand Equity, Engage Students and Get Results Using Game-Based Learning](#)

2/2/2021 | 12:00 PM – 1:00PM EST

►LIVE Exhibitor Workshop

Audience: 3 to 5

Legends of Learning | DC

## 326 [Rich Mathematics Curricula Brought to You by CPM, an Educational Non-profit!](#)

2/2/2021 | 1:30 PM – 2:30 PM EST

►LIVE Exhibitor Workshop

Audience: 8 to 10

CPM Educational Program | CA

## 329 [The Nenefits of Using MathType and Wiris Quizzes STEM AssessmentTools for Remote Instruction](#)

2/2/2021 | 1:30 PM – 2:30 PM EST

►LIVE Exhibitor Workshop

Audience: Coaches/Leaders/Teacher Educators

Wiris | CA

## 330 [Assess Yourself: Are You Smarter Than a 5th Grader?](#)

2/3/2021 | 10:30 AM – 11:30 AM

►LIVE Exhibitor Workshop

Audience: 6 to 8

Mathspace | NY

## 321 [The Power of Number Talks Taught Virtually or In Person](#)

2/3/2021 | 12:00 PM – 1:00 PM EST

►LIVE Exhibitor Workshop

Audience: Pre-K to 2

Didax, Inc. | MA

## 322 [Problem-based Learning Ideas and Strategies to Celebrate Student Thinking](#)

2/3/2021 | 1:30 PM – 2:30 PM EST

►LIVE Exhibitor Workshop

Audience: 6 to 8

Amplify Education | NY

## 331 [Supercharge Your Math Instruction with SparkMath](#)

2/3/2021 | 1:30 PM – 2:30 PM EST

►LIVE Exhibitor Workshop

Audience: 8 to 10

EduLastic | CA

## 332 [Reverse Learning Loss Through Problem Solving, Strategic Thinking and Deep Engagement](#)

2/4/2021 | 10:30 AM – 11:30 AM EST

►LIVE Exhibitor Workshop

Audience: 3 to 5

Teachley | NY

## 323 [The Impact of Algebra in the Elementary Math Curriculum](#)

2/4/2021 | 12:00 PM – 1:00 PM EST

►LIVE Exhibitor Workshop

Audience: 3 to 5

Didax, Inc. | MA

## 324 [An Exciting New Approach to PreK to 8th Grade Hands-on Math Instruction Presented by Brittany Goerig](#)

2/4/2021 | 1:30 PM – 2:30 PM EST

►LIVE Exhibitor Workshop

Audience: Pre-K to 2

hand2mind | IL

## 333 [Cultural Competency: Providing Equitable Math Instruction through Cultural Relevance – India White](#)

2/4/2021 | 10:30 AM – 11:30 AM EST

►LIVE Exhibitor Workshop

Big Ideas Learning

## 325 [Teaching with Manipulatives: Building Understanding of Addition Facts](#)

2/5/2021 | 12:00 PM – 1:00 PM EST

►LIVE Exhibitor Workshop

Audience: Pre-K to 2

Didax, Inc. | MA