



Collinsville High School
 2400 W Broadway St,
 Collinsville, OK 74021

Media Center

CHECK-IN & REGISTRATION

Commons

KEYNOTE, GENERAL & BOARD
 MEETINGS

Cafeteria

LUNCH

Gymnasium

VENDOR FAIR

Annex

SESSION WORKSHOPS



Please park in
 this parking lot

OCTM ANNUAL CONFERENCE

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LUNCH
SERVED IN
CAFETERIA

11:20 - 12:20
AM - PM

Lunch is FREE, thanks to our
friends at Imagine Learning!



Imagine
Math

LUNCH MENU:

Caesar Salad

Pasta Alfredo

Grilled Chicken (served on side)

Rolls



Room	Session 1 (9:30-10:20)	Session 2 (10:30-11:20)	Session 3 (12:30-1:20)	Session 4 (1:30-2:20)
501	OAS Updates (PK-5)	Mathematical Webs (PK-12)	Playful Math (PK-8)	Models vs Modeling (PK-12)
	Gena Barnhill, OSDE	Gena Barnhill & Brigit Minden, OSDE	Gena Barnhill, OSDE	Gena Barnhill, OSDE
502	OAS Updates (6-8)	OAS Updates (9-12)	Success with GPS (PK-12)	Integrated Math in High School (9-12)
	Anthony Purcell, OSDE	Anthony Purcell, OSDE	Anthony Purcell & Brigit Minden, OSDE	Brigit Minden, OSDE
503	Number Sense Routines	Math Centers: Explore, Apply and Extend	Hands-On Fractions	Math Facts: Fluency vs Automaticity
	Aubree Hurt Overholser Elementary, Putnam City K-5	Laurie Boswell Big Ideas 3-5	Holly Wilson Greenvale Elementary, Western Heights K-5	Bridget Broome Oklahoma State University K-5
505	Making Mathematics Matter: Engaging Students with Number Sense and the SMPs	i-Ready Classroom Mathematics for Oklahoma	Building a Differentiation Toolkit	Strategies to Promote Discourse in Mathematics Classrooms
	Nicholas Lopez Big Ideas K-8	Greg Sprayberry & Julie Chamberlain Curriculum Associates K-8	Charuta Joshi Bytelearn 6-8	Gerry Long CPM 6-12
506	Building Spatial Reasoning: A Hands on Approach	Using Tug-of-War and Two-Sided Counters to Make Sense of Integer Operations	Drab to Fab: Strategies for Powerful Practice	Heist Breakers
	Julia Prise & Kristyn Sartin Norman 3-12	Kristyn Sartin Norman 6-8	Andrea Wood Mid-Del Public Schools 3-8	Jenn Lowery Moore Public Schools 3-8

Room	Session 1 (9:30-10:20)	Session 2 (10:30-11:20)	Session 3 (12:30-1:20)	Session 4 (1:30-2:20)
507	Flipping Your Math Classroom	Honors Math: Getting Students Ready for AP Courses	NOW is the Time to Earn A Graduate Degree in Mathematics Education!	I Noticed, I Wondered: Now What?
	Lori Martin & Gretchen Watson Pryor Public Schools 6-12	Jill Taylor Broken Arrow Public Schools 6-12	Kate Raymond & Karen Zwanch Oklahoma State University All Educators	Karen Zwanch & John Weaver Oklahoma State University K-12
508	Integrated Math at Gordon Cooper	Let's play Function of the Day!	Using Primary Sources to Teach The Holocaust	Beyond Anne Frank
	Adam Dan Gordon Cooper Technology Center 6-12	Debra Richardson Osceola Public Schools 6-12	Pamela Blevins United States Holocaust Memorial Museum 6-12	Pamela Blevins United States Holocaust Memorial Museum 6-12
509	I Teach Math; Why Do I Care About CS	The Distributive Property: Methods to Build Understanding	Puzzles for Building Math Skills	Engaging Activities for Practicing Any Math Topic
	Jimmy Hartford & Sheamus Crawford Oklahoma State University 6-12	Shaun Carter Coweta Public Schools 6-8	Sarah Carter & Shaun Carter Coweta Public Schools 6-12	Sarah Carter Coweta Public Schools 6-12
511	Ingenious Influencers Like Me: Centering Student Voices in Math	So This IS Your First Rodeo?	Low Prep, High Engagement - Turn that Worksheet into Something MORE!	Mathematics and the Human Spirit
	Melynee Naegele Oklahoma State University 6-8	Kate Weese (Sallisaw Public Schools) & Preston Fenn (McCurtain Public Schools) 6-12	Shelli Temple (Collinsville Public Schools) & Lexi Gragg (Locust Grove Public Schools) 6-12	Paul Howard Oklahoma Christian University All Educators
512	Working with Radicals: A Visual and Hands-On Approach	Implementing Playful Opportunities into Mathematics	You Are Not Alone! Building Relationships Outside of Your School	Let's get Digital! Mathematical Modeling with enVision
	Nora Self Edmond Public Schools 9-12	Mandy Howell & Kayla Layman University of Oklahoma 6-12	Brandi Green Sharon-Mutual Public Schools 6-12	Christopher D'Erasmus, Curriculum Specialist-Savvas Learning

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513	Play-based Math: Promoting Exploration, Perseverance, and Communication	Engaging Algebra 1 Students in High-Dosage Tutoring	Using Dice to Explore Confidence Intervals for Mean and Proportion	Math Clubs & Competitions
	Cynthia Fransisco & Dawn Miller Oklahoma State University K-12	Cristina Moershel University of Oklahoma 9-12	Priscilla Malmstrom University of Science and Arts of Oklahoma 9-12	Cathie Kinnaman & Melissa Stirling Holland Hall 6-8
514	Yes, Students Can Do a Worksheet Online - AND Show Their Work! Using KAMI With Your Class.	Solving Equations - Graphically!	Alphabetizing Mathematics	Engaging Students with Math and Technology
	Mary Brese Brink Jr High, Moore Public Schools 6-12	Mary Brese Brink Jr High, Moore Public Schools 6-12	Mary Brese Brink Jr High, Moore Public Schools 6-12	Oscar Aguilera Amplify Math Desmos 6-12
517	Conic Cards!	Let's Talk Pre-Calculus	Teaching Problem Solving to ALL Students	How to Put the "Productive" into the "Struggle" in the Math Classroom
	Cindi Johnson Collinsville Public Schools 9-12	Cindi Johnson Collinsville Public Schools 9-12	Pam Richards Accelerate Learning K-8	Pam Richards Accelerate Learning K-8
518	TBD	TBD	ALEKS: An Algorithmic Teaching and Learning Mathematics Solution	TBD
			Johnny Miller McGraw Hill 3-12	

Full Session Descriptions:

Room		Session 1 (9:30–10:20)
501		OAS & Framework Updates (PK–5)
		Gena Barnhill, OSDE
		Oklahoma Academic Standards for Mathematics and Framework Update – This session will focus on the 2022 OAS–M and feature highlights from the Oklahoma Math Framework to support the implementation of the 2022 standards in the 2023–24 school year for grades PreK through 5th.
502		OAS & Framework Updates (6–8)
		Anthony Purcell, OSDE
		Oklahoma Academic Standards for Mathematics and Framework Update – This session will focus on the 2022 OAS–M and feature highlights from the Oklahoma Math Framework to support the implementation of the 2022 standards in the 2023–24 school year for grades 6th through 8th.
503		Number Sense Routines (K–5)
		Aubree Hurt, Overholser Elementary, Putnam City
		Background behind building number sense and why it's important – examples of number sense activities you can do every day. (This presentation has been done before for Building Math Minds summit and example is at aubreeteaches.com but can be pared down to be appropriate)

Room		Session 1 (9:30-10:20)
505		Making Mathematics Matter: Engaging Students with Number Sense & SMPs (K-8)
		Nicholas Lopez, Big Ideas
		Relevant mathematics is essential to student learning. Session participants will engage with mathematics routines that are designed intentionally for student accessibility and experience instructional routines that promote critical thinking and elevate student voice.
506		Building Spatial Reasoning: A Hands-On Approach (3-12)
		Julia Prise & Kristyn Sartin, Norman
		Take Geometry to the next level with hands-on activities that engage and excite learners! This session will provide participants the opportunity to bring hands-on activities into the classroom in order to engage students in geometric exploration, conjectures, and reasoning. The tasks shared can be modified to fit into many grade levels, stretching from late elementary to high school Geometry. Come ready to experience how Geometry can be exciting, inviting, and fun!
507		Flipping Your Math Classroom (6-12)
		Lori Martin & Gretchen Watson, Pryor Public Schools
		What is the best use of time in the classroom? Who is doing the learning in the classroom? Wouldn't it be amazing if students walked into your classroom with some basic knowledge of math concepts that would be built upon for the day? Flipping allows time for activities that push depth of knowledge. Join us to learn more about the flipped classroom model. We will discuss how to set up your classroom (video + activity ideas), some mistakes we made, and student feedback.

Room		Session 1 (9:30–10:20)
508		Integrated Math at Gordon Cooper, (6-12)
		Adam Dan, Gordon Cooper Technology Center
		<p>Come learn how the math is used in industry and have an answer for "when will we use this?" Gordon Cooper Technology Center has a unique integrated mathematics program. Students from various trades receive instruction with material geared just for them. We will walk through some of the material used at GCTC and translate some of the shop talk to mathian so you can use it in your class. Links will be provided for the curriculum we use to teach in the trades.</p>
509		I Teach Math; Why Do I Care About CS? (6-12)
		Jimmy Hartford & Sheamus Crawford, Oklahoma State University
		With all of the standards and missed learning teachers face today; why should teachers be interested in Computer Science in their math classes.
511		Ingenious Influencers Like Me: Centering Student Voices in Math (6-8)
		Melynee Naegele, Oklahoma State University
		Participants will engage in activities that allow educators to connect students' cultures to the math they do each day and learn how these create belonging-centered instruction. They will discover ways to utilize Jamaal Matthew's 4 H's Protocol to center the assets and experiential knowledge of historically marginalized students using content standards and Ingenious Influencers Like Me. Participants will learn how being involved in inclusive research and development can inform practices in ways that allow for the creation of inclusive experiences for all learners.

Room		Session 1 (9:30-10:20)
512		Working with Radicals: A Visual and Hands-On Approach (9-12)
		Nora Self, Edmond Public Schools
		Use decks of playing cards to explain operations with radicals. The methods I use quickly bring my students up to speed so that they can function in Geometry (working with right triangles) and Algebra II (working with quadratics). OAS-M addressed: A1.N.1 Extend the understanding of number and operations to include square roots and cube roots; G.RT.1 Develop and verify mathematical relationships of right triangles to solve real-world and mathematical problems; A2.A.1.1 Represent real-world or mathematical problems using quadratic equations and solve using various methods, factoring, completing the square, and the quadratic formula. Find non-real roots when they exist.
513		Play-Based Math: Promoting Exploration, Perseverance, and Communication (K-12)
		Cynthia Fransisco & Dawn Miller
		In this interactive session, we will introduce resources for free math puzzles and games that are accessible and engaging for everyone, from young children to research mathematicians. These activities address several of the OAS-M Mathematical Actions and Processes as students explore, reason, make conjectures, communicate mathematically, and much more, all while having fun. Participants will explore a sample of activities, and we will discuss ways that the OSU math department can support teachers' efforts to engage students in play-based math.
514		Yes, Students Can Do a Worksheet Online- AND Show Their Work! Using KAMI With Your Class (6-12)
		Mary Brese, Brink Jr High, Moore Public Schools
		With so many classes using virtual platforms, teachers need to have a way that they can assign worksheets that students fill in, just like paper copies. KAMI lets you create class notes and assignments that you can fill in during class as your teach, or students can fill in as assignments. This is especially great in a math classroom where teachers are still looking for students to "SHOW ALL THEIR WORK". You can use your premade documents or create directly in KAMI.

Room		Session 1 (9:30–10:20)
517		Conic Cards! (9–12)
		Cindy Johnson, Collinsville Public Schools
		You will get to experience a discovery unit using Conic Cards. These card (and assignments) help you to guide students through a study of Conic Sections. You will leave with access to the 9 sets of Conic Cards as well as the assignments. (Conic Sections are included in the new Precalculus Oklahoma Academic Standards.)

Room	Session 2 (10:30–11:20)
501	Mathematical Webs (PK–12)
	Gena Barnhill & Brigit Minden, OSDE
	Have you ever wondered about the path students travel in their math journey after your class is over? Or wondered when students were first introduced to specific content? Join the OSDE Math Directors as we collectively brainstorm about how mathematical content progresses from preschool through high school.
502	OAS & Framework Updates (9–12)
	Anthony Purcell, OSDE
	Oklahoma Academic Standards for Mathematics and Framework Update – This session will focus on the 2022 OAS–M and feature highlights from the Oklahoma Math Framework to support the implementation of the 2022 standards in the 2023–24 school year for Algebra I and up.
503	Math Centers: Explore, Apply and Extend (3–5)
	Laurie Boswell, Big Ideas
	Need more math center activities? Come experience activities where students practice computation skills, explore geometric and spatial tasks, and extend grade level concepts. All activities use common classroom materials and receive access to all activity templates, directions, and instructional notes. Support and challenge for all learners.

Room	Session 2 (10:30–11:20)	
505	i-Ready Classroom Mathematics for Oklahoma (K–8)	
	Greg Sprayberry & Julie Chamberlain, Curriculum Associates	
	An introduction to i-Ready Classroom Mathematics for K–8, one of the highest rated Math Programs in the United States according Ed Reports and correlated to the Oklahoma Academic Standards. A student-centered core math curriculum that’s already successfully supporting teachers in schools across the country.	
506	Using Tug-of-War and Two-Sided Counters to Make Sense of Integer Operations (6–8)	
	Kristyn Sartin, Norman	
	Do you want to make integer operation instruction about more than memorizing rules? Integrating the familiar context of Tug-of-War with two-sided counters can make integers more accessible and meaningful for students. These tools can help students visualize the symmetrical aspect of integers as well as model all four operations to build conceptual understanding and confidence in their solutions. Participants will engage with student-ready tasks to model different integer values and operations. Participants will also receive instructional supports for facilitating these conversations including access to interactive instructional slides.	
507	Honors Math: Getting Students Ready for AP Courses (6–12)	
	Jill Taylor, Broken Arrow Public Schools	
	By breaking down an AP free response question, we’ll discuss the vertical alignment, rigor, and relevance for prerequisite math content to better prepare students for success in AP math courses.	

Room	Session 2 (10:30–11:20)
508	Let's Play Function of the Day! (6–12)
	Debra Richardson, Osceola Public Schools
	Function of the Day is an engaging method for teaching math vocabulary and concepts related to functions that is creative and fun. Function of the Day will increase student test scores, increase students' vocabulary and math fluency, and it will build retention and understanding. Function of the Day fosters verbalization and collaboration. Learn how to use Function of the Day interactive daily bell work with your students. It can be used with various levels of High School Math, especially Algebra 1 & 2 and Precalculus.
509	The Distributive Property (6–8)
	Shaun Carter, Coweta Public Schools
	The Distributive Property is one of the cornerstones of arithmetic and algebra. This session will provide teachers from 3rd grade through high school with practical strategies that can be used to develop student understanding of multiplication and division, and the related concepts in algebra. With a particular focus on the box method/area model, examples will also include hands on modelling ideas as well as suggestions to improve how students conceptualize the standard algorithms.
511	So This *IS* Your First Rodeo? (6–12)
	Katelyn Weese (Sallisaw Public Schools) & Preston Fenn (McCurtain Public Schools)
	You just accepted your first math teacher position! Now what? This session is designed to help first year (and relatively new) teachers start a game plan for navigating their new math job. We will discuss resources available, policies and procedures that have made our careers easier, and how to build and organize your own curriculum and pacing chart. PLUS a Q&A Panel with other AWESOME Veteran Teachers!

Room	Session 2 (10:30–11:20)
512	Implementing Playful Opportunities into Mathematics (6–12)
	Mandy Howell & Kayla Layman, University of Oklahoma
	<p>Our presentation will express the need to implement play in the secondary mathematics classroom. We will do this by sharing games, resources, and other elements with the group. The OAS addressed can vary by activity, but the MAPs targeted include developing a flexible conceptual understanding, developing a productive mathematical disposition, and developing the ability to communicate mathematically. We could, however, argue that, with varying play, we could include all of the MAPs depending on the circumstances.</p>
513	Engaging Algebra 1 Students in High-Dosage Tutoring (8–12)
	Cristina Moershel & Tutors, University of Oklahoma
	<p>We are a research study out of OU that investigates high dosage tutoring using college students. The tutors would like to present our preliminary findings and share out strategies that worked to engage reluctant learners. This hands on experience will allow teachers to go through exercises used by the math tutors to engage students in a tutoring setting.</p>
514	Solving Equations - Graphically! (9–12)
	Mary Brese, Brinks Jr High, Moore Public Schools
	<p>Solving equations and understanding the applications of their solutions the foundation for all mathematics courses. We will analyze applications for bank accounts, a breakeven point, using distance to find time or speed, and use geometric relationships to solve for missing measures. We will look how these same applications can be rewritten as inequalities and systems of equations. A key focus will be on using the graphed equations to interpret solutions to both equations and inequalities.</p>

Room		Session 2 (10:30–11:20)
517		Let's Talk Precalculus! (9–12)
		Cindy Johnson, Collinsville Public Schools
		We will discuss the new OAS Precalculus standards and the new AP Precalculus program. Plus, do a little math!

Room		Session 3 (12:30-1:20)
501		Playful Math (PK-8)
		Gena Barnhill, OSDE
		Developing a playful mindset towards the discovery of math - What happens when a playful mindset meets academic content? Join us for an introduction to how a playful math mindset could transform your classroom and impact PK-8 students' engagement and achievement.
502		Find Success with GPS (All Educators)
		Anthony Purcell & Brigit Minden, OSDE
		Do you wish you had a GPS to direct you on how to support your students with grade-level growth? This session will look at actionable steps educators can use to help their students gain confidence and accelerate their learning.
503		Hands-On Fractions (K-5)
		Holly Wilson, Greenvale Elementary, Western Heights Public Schools
		Fractions are always a skill that can provide lots of tears, but using hands-on lessons give the students a better understanding of fraction skills. This session will allow teachers to make and take away many new hands on lessons for helping students be successful in mastering fractions.

Room		Session 3 (12:30–1:20)
505		Building a Differentiation Toolkit (6–8)
		Charuta Joshi, Bytelearn
		We will share strategies to create a culture of problem-solving built on high expectations and the supports needed to meet those expectations. We will look at creating lessons that allow students to make choices around pace and difficulty level. We will also look at personalized learning strategies that allow students the time to absorb and practice concepts and give them the opportunity to decide when they are ready to move on to the next level with the help of formative assessments. Lastly, we will explore how technology can help teachers differentiate through scaffolded help and insights into learning gaps.
506		Drab to Fab: Strategies for Powerful Practice (3–8)
		Andrea Wood, Mid-Del Public Schools
		Looking to engage students in meaningful activities that embed not only the math practices but also any state standard? Come explore ways to modify and turn worksheets into engaging activities to promote discussion, perseverance, and productive struggle. All students deserve the right to struggle and aha moments when they overcome the struggle!
507		NOW is the Time to Earn a Graduate Degree in Mathematics Education! (All Educators)
		Kate Raymond & Karen Zwanch, Oklahoma State University
		Have you been thinking that your teaching could benefit from a boost? Do you want to be engaged in a community of math teachers that deeply care about creating the highest quality learning experiences for all Oklahoma students? Have you been considering enrolling in a graduate program? Then OU and OSU are here to serve you! Come learn about programs in Mathematics Education at OU and OSU. You will have an opportunity to ask faculty and current students all your questions, from program components to the positive experiences you can expect as a student in one of these dynamic programs.

Room		Session 3 (12:30-1:20)
508		Using Primary Sources to Teach the Holocaust (6-12)
		Pamela Blevins, United States Holocaust Memorial Museum
		Because of the new requirement to teach the Holocaust in schools, teachers need some instruction in how to do this to the best of their abilities. I will show how using Primary and secondary sources can enhance their teaching. This includes diaries, memoirs, documents as well as survivor testimony and interviews. Materials available from a variety of sources will be addressed.
509		Puzzles For Building Math Skills (6-12)
		Sarah Carter & Shaun Carter, Coweta Public Schools
		Explore a variety of math and logic puzzles which specifically address various math skills. In this session, you will have a chance to try your hand at these math puzzles and learn how we have personally used them to teach and review math concepts in our middle school and high school math classrooms.
511		Low Prep, High Engagement - Turn That Worksheet into Something MORE! (6-12)
		Shelli Temple (Collinsville Public Schools) & Lexi Gragg (Locust Grove Public Schools)
		We all know that practice is important in math class, but sometimes it feels like we are on a "notes, worksheet, repeat" cycle! Come join us to find low-prep ways to take that worksheet up a notch to create engaging practice activities where students do more work with less grumbling!

Room		Session 3 (12:30–1:20)
512		You Are NOT Alone! Building Relationships Outside of Your School (6–12)
		Brandi Green, Sharon–Mutual Public Schools
		<p>Don't have a teacher next door to bounce an idea off of? Don't have a teacher down the hall to get help when you are stuck on a lesson plan? This is a cohort for teachers that may not have another math teacher in their building or their school to collaborate with. You are not on an island by yourself.</p> <p>The purpose of the cohort is:</p> <ol style="list-style-type: none"> 1. Open communication to help other teachers in the same situation 2. Share ideas, technology, programs, etc 3. Build relationships for future collaboration
513		Using Dice to Explore Confidence Intervals for Mean and Proportion (9–12)
		Priscilla Malmstrom, University of Science and Arts of Oklahoma
		<p>A presentation of two class activities using polyhedral dice to build students understanding of the relationship between confidence level and confidence interval and how confidence intervals vary for different samples.</p> <p>S.DA.5.1, S.DA.5.3, S.IR.1.2</p>
514		Alphabetizing Mathematics (6–12)
		Mary Brese, Brink Jr High, Moore Public Schools
		<p>Students are given acronyms to remember math procedures. However, starting in the early years of their education students learn math concepts in pairs, like the concept of fractions (denominator and numerator) or numbering a number line (negative and positive). Visit my session and I will give you my file of alphabetical relationships that help students remember how to use what they are learning. Here's a teaser - a fraction has a denominator and numerator, but which one is the bottom or the top position of the fraction?</p>

Room	Session 3 (12:30–1:20)
517	Teaching Problem-Solving to ALL Students (K-8)
	Pam Richards, Accelerate Learning
	Teaching students to reason and problem solve is the cornerstone of quality math instruction. This session will highlight several engaging strategies such as Three Reads, Numberless Word Problems, and more that will provide multiple entry points for all students to engage in the math and ignite a passion for problem solving in your classroom!
518	ALEKS: An Algorithmic Teaching and Learning Mathematics Solution That Meets Each Learner at Their Unique Challenge Level While Providing High Reliability Data to Target Instruction (3-12)
	Johnny Miller, McGraw Hill (ALEKS)
	Participants will engage in ALEKS pedagogically as a solution to make strong reliable data driven decisions while accelerating teaching and learning for all students. Let's take the lift off our educators and administrators! By providing real time standards based individualized instruction, dynamic grouping with actionable targeted instruction that is automated. Providing the blended learning co-teacher to accelerate, scaffold, intervene, provide precursor,, scaffold lessons and more that grow learners increasing depth of knowledge. Providing on target standards-based instruction and mastery-based assessment to better prepare students for summative, benchmarks, and high stakes testing. A perfect blend of teaching, learning, and assessment bundled seamlessly to accelerate achievement at all domains, standards, and individual levels of learning.

Room		Session 4 (1:30–2:20)
501		Models vs Modeling (PK-12)
		Gena Barnhill, OSDE
		What's the difference and why should you know? – This session will look at the various components of mathematical models and modeling and dive into why educators should understand how to use each to support student growth and understanding. We will discuss the increased use of these words in the 2022 OAS-M and what expectations are for students.
502		Integrated Math in High School (9-12)
		Brigit Minden, OSDE
		As more math course options become available for high school students, why should you consider offering integrated math? In this session, we will consider what Math 1, Math 2, and Math 3 could look like in an Oklahoma High School math classroom as well as the benefits students gain with this sequence.
503		Math Facts: Fluency vs Automaticity (K-5)
		Bridget Broome, Oklahoma State University
		Teachers will learn the difference between fluency and automaticity and how to move beyond basic fact memorization and towards more conceptual understanding of math facts in their classrooms. Activities for math fact fluency will be presented and teachers will leave with an understanding of how to use manipulatives to support students in learning their math facts. This presentation is appropriate for K-5th grade teachers and will address the following standards: K.N.1.4; K.N.1.6; 1.N.1.1; 1.N.2.1; 1.N.2.3; 2.N.2.1; 2.N.2.2; 3.N.2.1; 3.N.2.2; 4.N.2.1; 4.N.2.2; 5.N.2.2; 5.N.2.4

Room		Session 4 (1:30–2:20)
505		Strategies to Promote Discourse in Mathematics Classrooms (6-12)
		Gerry Long, CPM
		Students' sitting together in teams does not guarantee effective mathematical discourse. Defending one's position is important, but everyone needs to be heard. Activities will be modeled that encourage students to talk, write, and share ideas. Participants will participate in strategies that particularly deal with discourse while working through a rich math task. Educators will reflect on actionable steps to incorporate elements of discourse, make connections to the Effective Mathematics Teaching Practices, discuss strategies used in the session, and create goals and actions for promoting discourse in each participants' classroom.
506		Heist Breakers (3-8)
		Jenn Lowery, Moore Public Schools
		Looking for a way to get your students engaged when they walk through your door? Let's plan a HEIST: High Engagement and Interest Strategies for Teachers! We will be looking at several short, easy to implement activities to get your students thinking and talking about math. MAP: Develop Mathematical Reasoning and Develop the Ability to Communicate Mathematically
507		I Noticed, I Wondered: Now What? (K-12)
		Karen Zwanch & John Weaver, Oklahoma State University
		In this session, we will examine how to leverage the Notice and Wonder opener routine to motivate a day's mathematics lesson. We will give examples, align Notice and Wonder prompts to daily standards, and discuss using Notice and Wonder in our classrooms.

Room		Session 4 (1:30–2:20)
508		Beyond Anne Frank (6–12)
		Pamela Blevins, United States Holocaust Memorial Museum
		Using Anne Frank as a starting point, diaries of other victims and memoirs from Anne's friends and other survivors of approximately the same age and location as Anne will be used to show what was happening beyond Anne's hiding place.
509		Engaging Activities for Practicing Any Math Topic
		Sarah Carter, Coweta Public Schools (6–12)
		Looking for ways to practice math concepts that go beyond a standard worksheet? This session will provide you with a toolbox of creative and engaging practice activities that can be used in your middle school or high school math classroom to practice or review any topic. Some of the activities included are Question Stacks, Odd One Out, Two Truths and a Lie, Tarsia Puzzles, and Add Em Up.
511		Mathematics and the Human Spirit (All Educators)
		Paul Howard, Oklahoma Christian University
		This session will be a book review of Chasing Rabbits: A Curious Guide to a Lifetime of Mathematical Wellness written by Sunil Singh. Story telling lies at the heart of humanity. Singh does a masterful job of bringing story telling to the heart of mathematics. The presenter will offer personal insights to this approach. Attendees can also expect lively discussions based on select passages from the text.

Room		Session 4 (1:30–2:20)
512		Let's get Digital! Mathematical Modeling with enVision
		Christopher D'Erasmus, Curriculum Specialist
		Let's get digital and have fun with Mathematical Modeling! We'll discuss ways for getting your students engaged in the digital environment. This interactive workshop leverages being strategic with digital manipulatives, MathXL and 3-Act Math tasks to get you thinking about how to provide a space for students to take academic ownership of their learning.
513		Math Clubs & Competition
		Cathie Kinnaman & Melissa Stirling , Holland Hall
		Join us as we explore interesting and engaging resources for mathematical problem solving. MathCounts, Math Club and the Math Video Competition provide free and low cost resources to great mathematical problems and activities for use in the classroom or after school clubs. Tips, activities and resources for your classroom or after school club will be provided.
517		How to Put the "Productive" into the "Struggle" in the Math Classroom (K-8)
		Pam Richards, Accelerate Learning
		Are your math students hesitant when presented with challenging tasks? Do they wait for you to rescue them at the first signs of struggle? Discover the value of productive struggle and explore key components essential to building a classroom that fosters grit and perseverance.

Room		Session 4 (1:30–2:20)
514		Engaging Students with Math and Technology (6–12)
		Oscar Aguilera, Amplify
		<p>To honor students' thinking, we must first create opportunities to express their brilliance. Integrating technology in the math classroom can create an engaging, student-centered learning environment. We build features to help teachers showcase student thinking and provide meaningful, task-oriented feedback. During this session, we will explore how our graphing calculator (Desmos Studio) and our activity suite (Desmos Classroom) can engage learners into being creative and fluent in math! We'll experience these lessons from a student point of view while highlighting dynamic, teacher facilitation tools and instructional routines that encourage mathematical discourse and fluency. Please bring your charged laptop or device!</p>

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HUGE THANKS TO:

KEYNOTE SPEAKER REBECKA PETERSON,
ALL WORKSHOP PRESENTERS,
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- CPM Educational Programs
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- Curriculum Associates
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