

Session Descriptions

August 2

Session 1: Number Sense: The Road to Fluency

9:00–10:30

MCMI Coaches

What does fluency look like? What instructional practices support and really assess students' fluency? Participants will explore ways to develop fluency while analyzing and planning instructional routines that promote students as they develop and choose appropriate strategies.

Session 2: (Choose One)

10:45–12:15

2A: Choral Counting and Counting Collections (K–2)

Presenter: Ron Barbercheck

Counting is fundamental to learning mathematics in elementary school. Push beyond traditional counting and skip-counting to 100 routines. This session will focus on two activities: Counting Collections and Choral Counting, which support the development of counting and a deep understanding of numbers.

2B: Let's Get It Started! (K–5)

Presenter: Farah Mahimwalla

Engage in fun activities to use at the beginning of the school year that promote productive struggle, encourage growth mindset, and help establish routines for collaboration.

2C: Learning with Measurement Contexts Students Love (3–5)

Presenter: Cathy Kaduk

Students love measurement contexts. Why not use these contexts to develop geometric reasoning, quantitative reasoning, and problem-solving skills? Participants will engage in the math lab lesson structure (launch the question, collect data, represent data, analyze data) while thinking about how this math lab structure can be used to mathematize issues relevant to students.

2D: Puzzles and Play in Math (6–8)

Presenter: Katie Grunow

This session will focus on the use of puzzles, open ended problems, and non-curricular tasks to promote discourse, collaboration, and discovery in the middle school math classroom. Attendees will be active participants in the session taking on the role of student to complete various puzzles and tasks. Group discussion of ways to implement puzzles and play will follow each task.

2E: Can You Use Homework and Assessments to Close the Feedback Loop? (6–8, Coaches)

Presenters: Jennifer Jurasits and Jennifer Leimberer

Are your homework and assessment routines providing students the information they need? In this session, we will explore a variety of instructional strategies that are designed to provide useful feedback on homework and assessments.

2F: Desmos: Facilitating Classroom Discussion with Desmos Activities (6–12)

Presenter: Annie Forest

Desmos Activities are a powerful way for students to engage in activities that make concepts engaging and allow for exploration. We will dive deeper into ways to use the "5 Practices" along with the Desmos conversation tools and snapshots to facilitate meaningful classroom discussions. This session is for experienced Desmos users as well as those new to Desmos Activities.

Session 3 (Choose one)

1:00–2:30

3A: Number Fluency: Routines and Games to Illuminate the Big Ideas of Number Sense (PreK–2)

Presenters: Cyndi Lopardo and Toni Galassini

Number sense is crucial to a student's success in mathematics, so it's important to build a strong foundation in PreK–2nd Grade. We will explore a variety of engaging math routines and games that will have your students learning and having fun!

3B: An Introduction to Math Talks (K–5)

Presenter: Jenesis Byrne

New to Math Talks? Start here! We will experience an introduction to Math Talk routines and the use of Math Talks to provide access to a wide variety of learners. Teachers will have the opportunity to explore Math Talks that encourage discourse and the Standards for Mathematical Practice and to plan a Math Talk to use with their students.

3C: Nix the Tricks (K–5)

Presenter: Farah Mahimwalla

Do you cringe every time a student randomly uses a memorized mnemonic or trick and applies it to any and all problems? Let's explore alternatives to these shortcuts to deepen student understanding of mathematics.

3D: Go Slow to Go Fast: Numberless Word Problems & Slow Reveal Graphs (3–5)

Presenter: Annie Forest

Students often struggle with word problems. Come explore ways to help students slow down to make sense of problems before rushing to calculations. While "key words" may have worked for some types of problems, they also lead to some problems. Instead, we will examine routines such as Numberless Word Problems and Slow Reveal Graphs.

3E: Number Talks in High School: Short Routines—Big Impact (6–12, Coaches)

Presenter: Jackie Palmquist

Get students thinking, talking, and reasoning in ways that will surprise even the most experienced teacher. Today you will engage in and be provided with the why, the how and the confidence to use Number Talks in your classroom tomorrow. Number Talks ARE for big kids, too!

3F: Building Algebraic Representation and Reasoning (6–12)

Presenter: Melanie Wertz

Many teachers find it easy to convey the "steps" to solving an equation but struggle with how to assist students with word problem contexts. In this session, we will look at ways to build students' contextual algebraic thinking skills by building on their understanding of patterns, calculations, and non-symbolic representations.

August 3

Session 4: Figuring Out Fluency

9:00–10:30

Featured Speaker: Jennifer Bay-Williams

Jennifer Bay-Williams has written many articles and several books on the topic of fluency: *Math Fact Fluency* and the *Figuring Out Fluency* series, in addition to several articles in the NCTM journals. She will challenge the ways we assess fluency and offer us strategies for how to support students as they become fluent with numbers and operations.

Session 5 (Choose one)

10:45–12:15

5A: Pump Up Number Sense and Fluency in Your Instruction Using Picture Books (PreK–2)

Presenter: Toni Galassini

Carefully-selected picture books can set the stage for engaged, connected learning in math. Books with math concepts woven into the pictures and storyline can support foundational math skills such as number sense and fluency. Leave this session with a variety of book titles and activities that can be used to pump up number sense and fluency in your instruction!

5B: Focus on Making Connections: Compare and Connect (K–5)

Presenter: Jennifer Leimberer

Participants will explore a routine focused on deepening and diversifying students' reasoning and understanding: Compare and Connect. This simple routine encourages students to rethink their thinking and focuses on connecting representations and reasoning.

5C: Fostering Critical Thinking and Developing Number Sense (K–5)

Presenter: Deena Goldstein

When students with learning difficulties struggle in math class, they are often provided with low-level modified tasks that provide fewer opportunities to build knowledge and make connections in math. We will solve and discuss a set of low-floor high-ceiling tasks focused on number sense and fact fluency. We will explore ways to modify the tasks and instruction while still preserving the level of challenge and opportunities for high-level thinking.

5D: Constructing Meaning through Concrete-Representational-Abstract Approach (3–8)

Presenter: Carrie Skelton

While mathematics is a system connecting quantities and abstract symbols, it is rooted in the observation of the tangible world around us. Making sense of the tangible before moving to abstraction is key to helping all learners reason about the structure of mathematics.

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5F: Math Puzzles to Spark Curiosity and Joy (6–12, Coaches)

Presenter: Jackie Murawska

Come explore new puzzles like Bongard problems, Shikaku, Neighbors, KenKen, and some old favorites to get students excited to discuss mathematics! Learn how these puzzles embed fluency practice and math vocabulary, build number sense, and create welcome and inclusive spaces that promote agency.

Session 6 (Choose one)

1:00–2:30

6A: Measure, Count, and Compare for Authentic Reasons (K–2)

Presenter: Jennifer Leimberer

Counting and comparing are at the heart of K–2 instruction. Counting and comparing within a measurement context is magic. Participants will engage in and analyze why these contexts promote productive reasoning and language and create authentic and motivating reasons to do math.

6B: Choral Counting and Counting Collections (3–5)

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6E: Geometry Math Talks (6–12)

Presenter: Melanie Wertz

Geometric figures can be used to do short, engaging, whole-class thinking routines to build students' spatial reasoning as well as logic. In this session, we will try out some routines and discuss how to use the geometric reasoning progression to choose the right geometry talks to use with our students.

6F: Coaching for Cognitive Demand (Coaches)

Presenter: Annie Forest

Would you like to increase the cognitive demand and productive struggle in classrooms? This session for coaches will focus on ways we can work with teachers to reduce students "mimicking" and get students thinking!