

Metro Chicago Mathematics Initiative

Professional Development for K–8 Teachers

School Year 2018–2019



The *Metro Chicago Mathematics Initiative* (MCMI) at the University of Illinois at Chicago (UIC) is offering a series of five full-day professional development sessions in 2018–2019: one for newly-participating teachers and four independent sessions for new and previously-participating teachers. Sessions are organized around the Common Core State Standards for Mathematical Practice and Content and will incorporate the Mathematics Teaching Practices in *Principles to Actions (NCTM, 2014)*, the TRU framework, and equity-based teaching practices that **engage and meet the diverse needs learners**. These sessions will focus on supporting teachers as they make decisions that support conceptual development of key math content and practices, and will incorporate project resources, including Math Talks, MARS tasks, Formative Assessment Lessons, and Problems of the Month. Sessions will also focus on developing sustainable professional learning community activities that can continue to impact teacher practice.

GOALS: The professional development is designed to provide opportunities for teachers to explore problems of practice and:

- Build a **collaborative professional community** of reflective mathematics teachers;
- Develop teachers' understanding of what it means to **differentiate instruction** for a wide variety of learners;
- Enhance participants' abilities to use high-quality mathematics tasks to engage in **formative assessment processes** and support the development of students' robust understanding of mathematics;
- Expand participants' vision of mathematics teaching and strengthen teacher **content and pedagogical content knowledge**; and
- Deepen teacher understanding of the **Common Core State Standards for Mathematics**, promoting the Mathematical Practices across grade levels.

Session 1: MCMI: Core Practices, Routines, and Resources*	
This session is designed for new participants as well as experienced participants wishing to refresh their skills in using some of the tools and related strategies that are used in the project, including: Math Talks, MARS Tasks, and FAL's. We will use a mix of new tasks and activities, as well as some familiar ones, and assist all participants in locating the best and newest free and project-restricted resources for their course. This session is highly recommended for new participants as well as past participants wanting new inspiration for classic MCMI instructional ideas.	
Session 2: Meeting the Needs of All Learners	
How do we meet the needs of all our learners, especially when our students vary so much in their prior knowledge and specific needs? Teachers are under increased pressure to address student gaps while simultaneously ensuring high achievers are pushed to their potential. In this session, we will examine strategies for differentiating lessons, as well as homework, to meet the low-threshold/high-ceiling needs of our varied learners. We will also discuss interventions that work to fill mathematics gaps and why some common strategies fall flat, with a big focus on whole number and models of operations as a foundation for improving math success for all.	
Session 3: Building Better Number Sense	
K–2 & 3–5: Whole numbers and fractions	6–8: Rational numbers and proportional reasoning
How do we get our students to confidently engage with quantities and the problem situations? How do we build on what students know, and help students make connections explicit? How do we encourage students to use a variety of representations to support their reasoning? K–2 participants will focus on the development of base ten and whole number reasoning. Teachers in grades 3–5 will focus on whole numbers and fractions.	How do we get our students to confidently problem-solve when they encounter fractions, decimals and percentages? What mathematical ideas are still developing? How can they strengthen their ability to employ efficient proportional reasoning strategies both within the unit and in relationship to other mathematics domains? We will analyze and engage in routines to strengthen number sense, proportional reasoning, and flexibility in every unit.
Session 4: Visual Representation and Spatial Reasoning	
Grades K–2 & 3–5	Grades 6–8
The right visual representation and context can help students gain insight into problems and connect important mathematical ideas. Teachers will analyze and explore the role of visual models and the use of context to develop students' reasoning, and problem solving with whole number operation and fractions.	The right visual representation can help students gain insight into problems and connect important mathematical ideas. From number lines and graphs to data displays, diagrams, and geometric tools, we will look at ways to connect visual representation across the domains. We will examine research-based practices for designing geometry lessons and ways to address visual representations, measurement, and spatial reasoning issues that emerge throughout the curriculum.

Session 5: Data and Statistics as Context	
Grades K–2 & 3–5: Data, Computing, and STEM Connections	Grades 6–8: Data, Statistics, and Technology
How do we incorporate the data standards when we never seem to have time? How can we make connections to other mathematics domains and to STEM learning? In this session, we will look at strategies to make these connections, and to use data to cut across mathematics and science, as we strengthen our repertoire with the Common Core standards.	How do we do justice to our data or probability and statistics standards when we never seem to have time? How do we respond to emerging pressures to use technology in the classroom? We will look at strategies to enliven statistical thinking across the school year, in addition to strengthening our repertoire with the Common Core standards around data and statistics at each grade with connections to other domains. We will experience ways to take advantage of technology by incorporating data.

Please ensure that you have your administrator’s approval prior to registering. Session 1 is designed for teachers newly participating in MCMI; however, previously participating teachers are more than welcomed to attend. For participants from districts that are participating in the Mathematics PD Consortium, all sessions are free (subject to principal and/or district approval). Registration will be available at mcmi.uic.edu.

		Session 1	Session 2	Session 3	Session 4	Session 5
Grades K–2 Sessions						
WCMC Grades K–2	A	<u>West 40</u> 9/13	<u>West 40</u> 10/25	<u>West 40</u> 11/29	<u>West 40</u> 1/24	<u>West 40</u> 2/21
SCMC Grades K–2	B	<u>SCISC</u> 9/12	<u>SCISC</u> 10/23	<u>SCISC</u> 11/28	<u>SCISC</u> 1/22	<u>SCISC</u> 2/19
	C		<u>SCISC</u> 10/24	<u>SCISC</u> 11/27	<u>SCISC</u> 1/23	<u>SCISC</u> 2/20

		Session 1	Session 2	Session 3	Session 4	Session 5
Grades 3–5 Sessions						
WCMC Grades G3–5	D	<u>West 40</u> 9/27	<u>West 40</u> 11/1	<u>West 40</u> 12/13	<u>West 40</u> 1/31	<u>West 40</u> 3/7
SCMC Grades G3–5	E	<u>SCISC</u> 9/26	<u>SCISC</u> 10/29	<u>SCISC</u> 12/11	<u>SCISC</u> 1/29	<u>SCISC</u> 3/5
	F		<u>SCISC</u> 10/30	<u>SCISC</u> 12/12	<u>SCISC</u> 1/30	<u>SCISC</u> 3/6

		Session 1	Session 2	Session 3	Session 4	Session 5
Grades 6–8 Sessions						
WCMC Grades 6–8	G	<u>West 40</u> 10/4	<u>West 40</u> 11/15	<u>West 40</u> 1/10	<u>West 40</u> 2/7	<u>West 40</u> 3/14
SCMC Grades 6–8	H	<u>SCISC</u> 10/3	<u>SCISC</u> 11/13	<u>SCISC</u> 1/8	<u>SCISC</u> 2/5	<u>SCISC</u> 3/12
	I		<u>SCISC</u> 11/14	<u>SCISC</u> 1/9	<u>SCISC</u> 2/6	<u>SCISC</u> 3/13

LOGISTICS, LOCATIONS and REGISTRATION:

Sessions begin promptly at 8:30 am and end at 3:30 pm. Lunch will be provided.

Prior to each session, registered participants will receive an email reminder containing directions and information about artifacts to bring to the workshop. Please note that sessions without a minimum number of registrants may be cancelled.

West 40 Intermediate Service Center: 4413 Roosevelt Road, Suite 104, Hillside, IL 60162

SCISC (South Cook Intermediate Service Center): 253 West Joe Orr Road, Chicago Heights, IL 60411

Please contact Manuel Adrianzen at madria3@uic.edu or at 312-413-1733 with any questions.

