

Making Sense of Mathematics for Teaching
UCDMP Saturday Series 2018-2019
Secondary Series (6th-12th Grade)

Have you ever thought “But I didn’t learn math this way!” or “I don’t understand this model/strategy much less why they are asking me to teach it!” The new standards don’t just ask us to teach math differently. They also require us to teach math strategies and models that we were not taught and may not be familiar with.

Teaching mathematics requires teachers to facilitate instruction in ways that empower students to develop a deep understanding of mathematics. Unfortunately, teachers do not always have that “specialized” content knowledge which includes a deeper understanding of the concept as well as knowing and understanding a variety of representations and strategies related to that concept. And, frequently, this specialized knowledge is not something that we, as teachers, have previously learned.

During this series of 6 workshops, we will work together to deepen our own content knowledge and understanding as we continue to explore how we can use tasks, questioning, and evidence to create a shared vision of classrooms where students are engaged in meaningful mathematics experiences.

Throughout the Saturday Series we will be working in both a larger 6th-12th grade group and in middle school (6th-8th) and high school (9th-12th) groups. In addition to specific content domains for each of the Saturday workshops, we will continue to focus on the use of tasks, promoting academic discourse and writing in math classes, and issues related to equity and access for all students. And we will continue to have a variety of mathematicians join us as part of our experiences in thinking about how people learn. Be sure and bring your teacher materials - you will be provided time to infuse grade appropriate ideas, understandings, and strategies into your curriculum. As always, participants are welcome to attend all, a few, or even just one session. Have fun with us as we collaborate on ways to deepen students’ mathematical abilities.

Dates:

Saturday, October 6, 2018

- During this session we will look at the purpose of school mathematics and discuss ways of engaging students in learning math. During the break-out sessions participants will continue to examine instructional strategies and ways of engaging students as they focus on deepening their own conceptual understanding and pedagogical knowledge. Today, middle school teachers will focus on fractions and integers while high school teachers focus on equations and functions.

Saturday, November 3, 2018

- During this session we will examine what it means to have equitable structures in place at our sites and the role these various structures have on student achievement. We will also take a deeper look at numbers and number operations and how they develop from 6th grade through high school. During the break-out sessions participants will continue to examine instructional strategies and ways of engaging students as they focus on deepening their own conceptual understanding and pedagogical knowledge. Today, middle school teachers will focus measurement and geometry while high school teachers focus on the structure of equations.

Saturday, January 12, 2019

- During this session we will examine ways to implement equitable instruction, including research-based strategies. During the break-out sessions participants will continue to examine instructional strategies and ways of engaging students as they focus on deepening their own conceptual understanding and pedagogical knowledge. Middle school teachers will focus ratio and proportional relationships while high school teachers focus on geometry and measurement.

Saturday, February 2, 2019

- During this session we will continue to examine equitable instruction and strategies. We will also examine the Math Progressions and discuss how we can use these progressions to strengthen and support our planning process. During the break-out sessions participants will continue to examine instructional strategies and ways of engaging students as they focus on deepening their own conceptual understanding

and pedagogical knowledge. During these sessions, middle school teachers will focus on functions while high school teachers focus on types of functions and connecting algebra and functions.

Saturday, March 9, 2019

- During this session we will examine the role that modeling with mathematics plays in 6th-12th grade. During the break-out sessions participants will continue to examine instructional strategies and ways of engaging students as they focus on deepening their own conceptual understanding and pedagogical knowledge. Today, middle school teachers will focus on equations, expressions, and inequalities while high school teachers will continue to focus on modeling and functions.

Saturday, May 4, 2019

- During this session we will stop and take time to reflect on the organization of our courses at both middle and high school and discuss and share ideas for optimizing student learning and retention. During both break-out sessions participants will examine instructional strategies and ways of using statistics and probability to engage students as they continue to deepen their own conceptual understanding and knowledge. We will also reflect back on the year and identify “next steps” as we continue to work on teaching in ways that support all students in learning mathematics.