

General Session

Power of Mathematical Mindsets

This session will be based on the work of Jo Boaler and her book *Mathematical Mindsets* and the work of Carol Dweck and her book *Mindset*. We will explore how the brain works and what we can do to help students move from just “learning mathematical information” to “knowing the math and how to use and apply it.” We will learn and experience how struggle and mistakes are critical for mathematical learning. We will develop rich mathematical tasks to meet our grade level standards, and we will practice methods of teaching for a growth mindset.

Breakout Sessions

Administrative:

Math “Look-Fors” in Elementary, Middle, and High School: Using TRU (Teaching for Robust Understanding in Math Classrooms) Coupled with Marzano

What makes a mathematically powerful classroom? What should we see in the classroom? How can we have conversations with teachers to help them grow with their students? The TRU Math Framework summarizes the research on quality math instruction into five dimensions. Come to this session to learn how to frame mathematical learning and improve student results.

Rethinking Acceleration in Middle/High School

Participants that attend this session will (1) weigh the costs/benefits of acceleration, (2) investigate college and career readiness pathways/pipeline for grades 6-12 mathematics and, (3) discuss the purpose for acceleration and how students are identified. Furthermore, Participants that attend this session will focus on how to best communicate to parents and community (1) the costs/benefits of acceleration, (2) college and career readiness pathways/pipeline for grades 6-12 mathematics and, (3) the purpose for acceleration and how students are identified. We will share: White paper on acceleration and the research base and description of the pipeline for grade 6-12 mathematics. This session would be geared towards teachers, curriculum leaders, administrators, and coaches. This topic is relevant now because with the adoption of more rigorous standards there are many concerns regarding acceleration at the middle school and high school level. It is imperative to learn the facts about past acceleration, what acceleration means today, the research base on the cost/benefits of acceleration, and the multiple pathways for reaching high achievement in mathematics for all students. It is especially important that this information is effectively communicated with parents and members of community to continue to move forward. This presentation demonstrates best practice because it is aligned with the rigorous standards adopted by our state. It is aligned to what the research shows is best for students. This presentation is unique because we will share and explain newly developed resources designed by Kansas educators designed to address questions from teachers, administrators and parents around the topic of acceleration and the sequencing of courses at the high school level.

Family Math Night Ideas

You will leave with PowerPoints and ideas to implement parent night in your community. Supporting families for elementary and middle schools.

Elementary:

Number Sense, Operations, and Fractions

The elementary math session will focus on specific content that will engage all participants in actively making sense of the mathematics. Topics will include:

- Number Sense
- Common Situations (Addition/Subtraction & Multiplication/Division)
- Fraction Number Sense

Middle/High School:

Exploring, Implementing and Integrating Middle and High School Geometry

Bring your curriculum resources! During this workshop, participants will be introduced to a variety of strategies that will impact students' learning of the geometry standards. This will be a time for participants to collaborate with others regarding the effective implementation and integration of the geometry standards. The session will include time to explore the geometry standards and what they could look like in the classroom, as well as aligning and creating resources to incorporate geometry at every level of middle and high school mathematics.

A Functions-Based Approach to MS and HS Algebra

In this workshop participants will take part in discussions and activities that allow them to consider the deep mathematical ideas of functions and how to make these concepts accessible to MS and HS students. Participants will be presented the opportunity to rethink and expand the definition of a function as well as explore multiple ways to represent functions. They will explore rate of change as a way to classify functions into families. Participants will leave this session with a deeper understanding of functions as well as classroom ready activities to help their students gain these understandings.