

3-Day Professional Learning Series: Deepening Students' Understanding of Mathematics

During this transformational professional development series, participants build mathematical content knowledge and gain instructional strategies to engage students with lessons and learning activities aligned to state standards.

Participants will leave the course with a new cohesive instructional plan, as well as having the competence and confidence to begin implementing it immediately.



▶ DAY 1: MAKING SENSE OF MATH: Reasoning & Discourse

- How do mathematical tasks and questions differ?
- How students construct ideas and systems
- Productive discourse in students' reasoning and sense-making

▶ DAY 2: MATHEMATICAL THINKING: Representation and Procedural Fluency

- Expand procedural fluency (flexible, accurate & appropriate)
- Broadening the mathematical tool kit (include anything that students use)
- Connecting representations & underlying mathematical concepts
- Assess student's understanding of tools, representations, fluency & address gaps

▶ DAY 3: RIGOROUS LEARNING EXPERIENCES: Hands-on planning sessions

- Engaging Students in Constructive Struggle
Giving students time and opportunity to struggle constructively with complex problems—which are often interesting and engaging—increases their motivation. Students learn that in-depth analysis and critical thinking are as valuable as quick recall and direct skill application
- Classifying Tasks
This session raises teachers' awareness of “tasks that promote reasoning and problem solving” as defined by Principles to Actions (NCTM 2014). The point is not that one type of task is better than another; rather, it is important to know the potential of a task so that it can be appropriately matched to the goals for student learning
- Creating an Instructional Plan
During this working session, participants use the instructional strategies from the Day 1 & Day 2 of the series to align lessons and learning activities to be part of a cohesive instructional plan. Choosing learning experiences for students is a regular part of classroom instruction. Ensuring that the choice of experiences embodies the rigor called for in state standards is important. With well-aligned, purposeful, and engaging activities, units of study effectively guide students to proficiency with the identified concepts and skills

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