

AGENDA**Developing Number Sense
Grades K–5****COURSE GOALS**

This course is designed to help teachers:

- Strengthen their math content and pedagogical knowledge for the purpose of making math accessible to all students
- Understand how students learn mathematics
- Identify ways to develop students' sense of number which enables them to become flexible in their ability to reason numerically

LEARNING OUTCOMES

After the session, participants will be able to:

- Characterize teaching strategies for building number sense, and understand the importance of each (**Learner and Learning Environment**)
- Explain and use the role of talk to support learning of mathematics (**Research-Based Instructional Strategies**)
- Use models and tools that support student understandings and proficiencies called for in current standards (**Research-Based Instructional Strategies**)
- Recognize and support students' development of common strategies for addition, subtraction, and multiplication (**Content Knowledge**)

Opening

This introduction includes the course goals and pertinent logistical information.

Examining Number Sense

Samples of student work illustrate flexible computation strategies. A brief article introduces participants to six strategies for building number sense. Experiences during the rest of the day clarify the importance of these strategies.

Fostering Number Relationships and Landmark Numbers

Facility with landmark numbers empowers students to confidently navigate the number system and explore different computation strategies. Participants experience several different activities that highlight number relationships and encourage the use of landmark numbers.

BREAK

Developing Computational Strategies

Computationally fluent procedures are accurate, efficient, and flexible. Students develop these characteristics over time as they explore different kinds of procedures and analyze each other's strategies. In this session, participants use number lines as a tool for modeling addition and subtraction and examining the relationship between numbers.

LUNCH

Using Estimation and Mental Math

In this session, participants make estimates and calculate mentally. It's imperative that teachers are comfortable in their own abilities to compute flexibly before they are able to foster such thinking in students.

BREAK

Maximizing the Impact of Games

Participants experience a game modeled with intentional, explicit discussions focused on the teacher's role in maximizing the learning opportunities when using games.

Closing

Participants take time to reflect on the experiences of the day and ways that these experiences will positively impact their classroom instruction.