



PROFESSIONAL LEARNING

FOLLOW-UP: EXPLORING CONTENT, TOOLS, AND STRATEGIES IN MATH 180[®] COURSE I

PARTICIPANT NUMBER: 35 FORMAT: In Person DELIVERY LENGTH: Two Full Days

OVERVIEW



MATH 180 Course I uses models, tools, and alternative strategies to help students understand content and communicate their learning. This course provides the opportunity for collaboration between *MATH 180* teachers and core teachers as they focus on mathematical content using the tools and strategies introduced in *MATH 180*. Explicit connections between core content and *MATH 180* content promote instructional practices that impact student learning.

LEARNING ENVIRONMENT



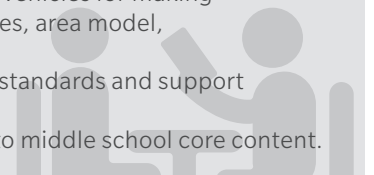
- Seating for participants to flexibly work in groups or pairs
- Computers with interactive access for all participants



OUTCOMES



- Identify common misconceptions and errors in students' mathematical thinking.
- Interact with and use the following models and tools found in *MATH 180* as vehicles for making meaning of numbers, properties, and operations: fraction pieces and shapes, area model, open number lines, bar model, and decimal grids.
- Use instructional strategies employed in *MATH 180* that exemplify process standards and support students' understanding.
- Connect the foundational math content and representations of *MATH 180* to middle school core content.



AGENDA - Day 2

OPENING

This introduction reviews the goals of the course and launches the day with a math activity.

HOW STUDENTS LEARN: A FOCUS ON OPERATIONS WITH FRACTIONS

This session is designed to give participants insight into how children learn with understanding how to compute with fractions. Learning with understanding occurs when people create, or construct, their own comprehension of mathematical concepts and relationships through interactions between their minds and

HOW STUDENTS LEARN: A FOCUS ON OPERATIONS WITH FRACTIONS (CONT.)

concrete experiences in the real world. Participants use fraction strips and previous knowledge about computing with whole numbers as tools to make sense of computation strategies for fractions. This is an opportunity to explore social knowledge vs. sense-making of mathematical concepts.

DECIMAL REPRESENTATIONS

Students have increased number sense with decimals when they can use mathematical representations flexibly and translate among different models. Participants gain experience using grids and number lines to represent decimals and consider how to implement these models with students in the *MATH 180* classroom.

COMPUTING WITH THE OPEN NUMBER LINE

The Open Number Line is an efficient tool for representing flexible computation strategies. It encourages students to use benchmark numbers, apply knowledge of place value, and consider flexible approaches to addition and subtraction. The Open Number Line in *MATH 180* helps students keep track of the different steps they used, and it allows them to efficiently communicate their strategy to others. Students benefit from explicit experiences and practice with the Open Number Line.

USING THE BAR MODEL

One way students can attach meaning to operations is by solving problems in a context while using models. During this session, participants experience the various problem types of *MATH 180*. As they classify problems that are commonly used in instruction, they recognize the importance of exposing students to a wide variety of problem situations.

CLOSING

Participants take time to reflect on the experiences of the day and ways that these experiences will positively impact their classroom instruction. Purpose: This session is devoted to the important process of professional reflection.

**YOU MIGHT
ALSO BE
INTERESTED IN:**

- Follow-Up: *MATH 180* Data and Differentiation
- Follow-Up: *MATH 180* Conducting Classroom Discourse
- Follow-Up: *MATH 180* Leadership Overview

Job #8533
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This overview is based on the suggested best practices but can be personalized to meet specific school and district needs.

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