

AGENDA

Foundational Seminar for Do the Math Addition and Subtraction

GOALS

- Use content-scaffolded, sequenced lessons to develop students' computation skills, number sense, and problem-solving abilities
- Pace instruction for student success
- Facilitate student interactions using the think-pair-share strategy to deepen student learning and assess understanding
- Integrate vocabulary development into intervention instruction

OVERVIEW

This foundational seminar helps teachers gain a deeper understanding of instructional strategies and underlying mathematics content embedded in the Do the Math/Do the Math Now! programs. Teachers learn alternative teaching approaches that engage and motivate struggling students, pace students for success, and bolster their confidence and competence. Teachers learn how to make informed choices about the instruction they provide students who need more time and support to learn math.

DAY 1

OPENING

This introduction presents the course goals, an explanation of the structure and layout of the resource *Do the Math*, an overview of the standards, and pertinent logistical information.

PERSPECTIVE ON INTERVENTION

Having a common understanding of what intervention means sets the foundation for the instructional strategies specific to intervention instruction that are introduced over the course of these days. Participants record their own definitions of intervention and indicate when intervention instruction should take place, and then compare and contrast these ideas with those described in the article "Nine Ways to Catch Kids Up."

COMBINATIONS OF TEN AND ADDITION FACTS

Participants learn about ten-frames as a tool for helping students do visual sums. To address facts beyond combinations of ten, participants use two ten-frames and the Spillover game.

LUNCH

HOW STUDENTS LEARN

This session is designed to give participants insight into how children learn. It focuses on a view of learning in which people create or construct their own understanding of mathematical concepts and relationships through interactions between their minds and concrete experiences in the real world.

REPRESENTING NUMBERS AS TENS AND ONES: PART ONE

Participants connect their work with the ten-frame to the hundreds chart and open number line. Using these tools, they investigate the importance of developing computational fluency.

DAY 2

REPRESENTING NUMBERS AS TENS AND ONES: PART TWO

Participants connect their work with the ten-frame to the hundreds chart and open number line. Using these tools, they investigate the importance of developing computational fluency.

ADDITION AND SUBTRACTION: PART ONE

Participants engage in lessons that support students as they develop an understanding of subtraction, including how it relates to addition and tools, as well as visual images that are useful for problem solving.

LUNCH

ADDITION AND SUBTRACTION: PART TWO

Participants engage in lessons that support students as they develop an understanding of subtraction, including how it relates to addition and tools, as well as visual images that are useful for problem solving.

ADDITION AND SUBTRACTION WITH LARGER NUMBERS

Participants examine how the strategies they have developed are useful to students as they work with large numbers. They experience the importance of expanded form in supporting students as they add and subtract.

CLOSING

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

MATH SOLUTIONS GUIDING PRINCIPLES

Drawing upon academic work and our own classroom-grounded research and experience, Math Solutions has identified the following four instructional needs as absolutely essential to improving instruction and student outcomes:

- Robust Content Knowledge
- Understanding of How Students Learn
- Insight into Individual Learners through Formative Assessment
- Effective Instructional Strategies

These four instructional needs drive the design of all Math Solutions courses, consulting and coaching. We consider them our guiding principles and strive to ensure that all educators:

- Know the math they need to teach—know it deeply and flexibly enough to understand various solution paths and students' reasoning.

Math Solutions Course Agenda: DTM Seminar-Addition & Subtraction

- Understand the conditions necessary for learning, what they need to provide, and what students must make sense of for themselves.
- Recognize each student's strengths and weaknesses, content knowledge, reasoning strategies, and misconceptions.
- Have the expertise to make math accessible for all students, to ask questions that reveal and build understanding, and help students make sense of and solve problems.