

**AGENDA*****Do The Math: Multiplication*****OVERVIEW**

This course deepens participants' understanding of multiplication and the *Do The Math* methodology. Participants gain familiarity with the mathematical content of the modules and increase their confidence in the use of the eight instructional principles. They explore the Instructional Practices Inventory and consider how it can elevate instructional decisions.

**OUTCOMES**

- Articulate key concepts and strategies from the multiplication modules
- Support students' ability to make sense of multiplication concepts, solve problems, reason, and use designated strategies
- Make learning experiences accessible to all students without compromising the rigor in the lessons
- Utilize the Instructional Practices Inventory to reflect on effective *Do The Math* instruction

**Day 1****Opening**

The opening includes introductions, goals, an overview of *Do The Math: Multiplication* modules, and establishes learning agreements.

**Introducing Equal Groups**

Participants discuss the big ideas of multiplication and the challenges students face as they move from addition and subtraction to multiplication. They examine *Do The Math* lessons and discuss how the scaffolding supports and prepares struggling students to work independently.

**BREAK****Making Explicit Connections**

In this session, participants consider the progression from equal groups to arrays. They focus on how *Do The Math* explicitly builds on prior learning, and the significance of supporting students to make connections. Lessons prompt students to make connections between different representation types and to connect new content to what they already understand.

## **LUNCH**

### **Building Numerical Reasoning**

*Do The Math* helps students develop numerical reasoning by focusing on relationships and understanding. Participants experience a multiplication game and consider how to effectively facilitate games to maximize learning.

## **BREAK**

### **Scaffolding Multiplication Problems**

The careful scaffolding that struggling students need to understand mathematics and be successful requires educators to carefully consider the complexity and layers of the mathematical concepts. In this section, participants work collaboratively to scaffold a series of multiplication problems to better understand the progression of content in *Do The Math*.

### **Closing**

Participants take time to reflect on the experiences of the day and ways that these experiences will impact their classroom instruction. In addition, participants draw upon the expertise of colleagues and discuss possible solutions for common instructional scenarios with *Do The Math*.

### **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
- 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 to help students make sense of and solve problems