

But Why Does It Work?

Mathematical Argument in the Elementary Classroom

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If you ask students, "Why does that work?" do they know what you're asking and do you know what to listen for in their responses? Do you have images of what mathematical argument looks like in the elementary grades and how to help students learn to engage in this important practice? Do you have so much content to cover that finding time for this kind of work is difficult?

But Why Does It Work? offers a simple, efficient teaching model focused on mathematical argument for developing the ability of students to justify their thinking and engage with the reasoning of others. Designed for individuals as well as study groups, this book includes access to classroom-ready instructional sequences, each built on a model supporting students in:

- noticing relationships across sets of problems, equations, or expressions
- articulating a claim about what they notice
- investigating their claim through representations such as manipulatives, diagrams, or story contexts
- using their representations to demonstrate why a claim must be true or not
- extending their thinking from one operation to another.

Establishing a classroom culture where students gain confidence in their own mathematical voice and learn to value the contributions of their peers is a critical part of this work. The authors tell us, "If the idea underlying a student's reasoning is not made explicit, the opportunity for all students to engage in such thinking is lost." As students become a true community of mathematicians, they heighten each other's understanding by investigating questions, conjectures, and examples together.

Enhanced with extensive video showing the instructional sequences in action—along with guiding focus questions and math investigations—*But Why Does It Work?* is a flexible approach that will help students confidently articulate and defend their reasoning, and share their deep thinking with others.

[Purchase the book.](#)

