

# Goals

*Investigations in Number, Data, and Space* is a K–5 mathematics curriculum designed to engage students in making sense of mathematical ideas. This third edition of the curriculum, *Investigations 3*, is built on the strong foundation of the first two editions and the six major goals that have guided the development of the curriculum. The curriculum is designed to

- support students to make sense of mathematics and learn that they can be mathematical thinkers;
- focus on computational fluency with whole numbers as a major goal of the elementary grades;
- provide substantive work in important areas of mathematics—rational numbers, geometry, measurement, data, and early algebra—and the connections among them;
- emphasize reasoning about mathematical ideas;
- communicate mathematics content and pedagogy to teachers; and
- engage the range of learners in understanding mathematics.



# Guiding Principles

Underlying these goals are three guiding principles that are touchstones for the *Investigations* team as we approach both students and teachers as agents of their own learning:

**1 Students have mathematical ideas.** Students come to school with ideas about numbers, shapes, measurements, patterns, and data. If given the opportunity to learn in an environment that stresses making sense of mathematics, students build on the ideas they already have and learn about new mathematics they have never encountered. They learn mathematical content and develop fluency and skill that is well grounded in meaning. Students learn that they are capable of having mathematical ideas, applying what they know to new situations, and thinking and reasoning about unfamiliar problems.

**2 Teachers are engaged in ongoing learning** about mathematics content, pedagogy, and student learning. The curriculum provides materials for professional development—to be used by teachers individually or in groups—that supports teachers’ continued learning as they use the curriculum over several years. The *Investigations* curriculum materials are designed to be used as much as a dialogue among teachers as a core content for students.

**3 Teachers collaborate with the students and curriculum materials** to create the curriculum as enacted in the classroom. The only way for a good curriculum to be used well is for teachers to be active participants in implementing it. Teachers use the curriculum to maintain a clear, focused, and coherent agenda for mathematics teaching. At the same time, they observe and listen carefully to their students, try to understand how their students are thinking, and make teaching decisions based on these observations.