Thinking Mathematically: Integrating Arithmetic & Algebra in Elementary School
By: Thomas P. Carpenter, Megan Loef Franke, Linda Levi

In Children's Mathematics: Cognitively Guided Instruction, Thomas Carpenter, Megan Franke, and Linda Levi helped tens of thousands of teachers understand children's intuitive problem-solving and computational processes. More important, the authors helped teachers figure out how to use that knowledge to enhance students' understanding of arithmetic. In this book the same author team takes teaching and learning mathematics to the next level, revealing how children's developing knowledge of the powerful unifying ideas of mathematics can deepen their understanding of arithmetic and provide a solid foundation for learning algebra. This book also shows how teachers can increase their own knowledge of mathematics in the process of interacting with their children and reflecting about their practice.

Thinking Mathematically provides numerous examples of classroom dialogues that indicate how algebraic ideas emerge in children's thinking and what problems and questions help to elicit them. Special features of the book help teachers develop their own understanding of mathematics along with their students':

* Teacher Commentaries capture the voices of a number of teachers, providing realistic portrayals of what happens in class.

* End-of-chapter Challenges offer a variety of problems and activities for teachers to increase their own knowledge of mathematics and to help their students develop algebraic thinking.

* An accompanying CD provides rich illustrations of ideas in the book-extended interactions with individual children or classroom episodes—all clearly linked to the text.