

## P R E F A C E

On September 12, 2006, the National Council of Teachers of Mathematics released *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence* to encourage discussions at the national, state, and district levels on the importance of designing a coherent elementary school mathematics curriculum focusing on the important ideas at each grade level. The natural question that followed the release of *Curriculum Focal Points* was “How do we translate this view of a focused curriculum into the classroom?”

*Focus in Grade 4*, one in a series of grade-level publications, is designed to support teachers, supervisors, and coordinators as they begin the discussion of a more focused curriculum across and within prekindergarten through grade 8, as presented in *Curriculum Focal Points*. *Focus in Grade 4*, in conjunction with the *Focus in Grade 3* and *Focus in Grade 5* books, will provide a strong foundation to underlie the mathematics in a focused curriculum across grades 3 through 5. In addition, teacher educators should find *Focus in Grade 4* useful as a vehicle for exploring with their preservice teachers mathematical ideas and curriculum issues related to the suggested Grade 4 Curriculum Focal Points.

The contributors to, and reviewers of, these publications, all active leaders in mathematics education and professional development, guided the creation of this grade-level book as a framework for lesson-study experiences in which teachers deepen their understanding of the mathematical ideas they will be teaching. This book describes and illustrates instructional progressions for the mathematical concepts and skills of each Grade 4 Curriculum Focal Point, including powerful representational supports for teaching and learning that can facilitate understanding, stimulate productive discussions about mathematical thinking, and provide a foundation for fluency with the core ideas. Because these progressions cut across grades, the reader will see the same progressions for similar topics in grades 3, 4, and 5. Different parts of those progressions will appear as curriculum focal points in the different grades.

Whether you are working with your colleagues or individually, we hope you will find the discussions of the instructional progressions, representations, problems, and lines of reasoning valuable as you plan activities and discussions for your students and as you strive to help your students achieve the depth of understanding of important mathematical concepts necessary for their future success.

—Jane F. Schielack  
Series Advisor

## PREFACE TO CURRICULUM FOCAL POINTS FOR PREKINDERGARTEN THROUGH GRADE 8 MATHEMATICS

As states and local school districts implement more rigorous assessment and accountability systems, teachers often face long lists of mathematics topics or learning expectations to address at each grade level, with many topics repeating from year to year. Lacking clear, consistent priorities and focus, teachers stretch to find the time to present important mathematical topics effectively and in depth.

The National Council of Teachers of Mathematics (NCTM) is responding to this challenge by presenting *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence. Building on Principles and Standards for School Mathematics* (NCTM 2000), this new publication is offered as a starting point in a dialogue on what is important at particular levels of instruction and as an initial step toward a more coherent, focused curriculum in this country.

The writing team for *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics* consisted of nine members, with at least one university-level mathematics educator or mathematician and one pre-K–8 classroom practitioner from each of the three grade bands (pre-K–grade 2, grades 3–5, and grades 6–8). The writing team examined curricula from multiple states and countries as well as a wide array of researchers' and experts' writings in creating a set of focal points for pre-K–grade 8 mathematics.

On behalf of the Board of Directors, we thank everyone who helped make this publication possible.

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