Critical Foundations for Algebra

The National Mathematics Advisory Panel report offers recommendations for how we can best prepare elementary and middle school students for success in algebra, a gateway to mathematics in high school and beyond.

Mathematics Preparation for Algebra

—Follow a focused, coherent progression of mathematics

—Achieve proficiency with whole numbers, fractions, and aspects of geometry and measurement

—Build deep understanding

—Emphasize fractions and related concepts

Comprehensive Instruction

—Develop conceptual understanding, computational fluency, and problem-solving skills

—Achieve automaticity in computation

—Provide adequate practice

—Encourage effort and persistence

Mastery Framework

—Set benchmarks for key skills

—Use formative assessments

—Provide explicit instruction for struggling students

—Offer acceleration and enrichment for gifted students

Grade-Level Benchmarks for Critical Foundations*

PRE-K	
K	
1ST	
2ND	
3RD	Add and subtract whole numbers
4TH	Identify, represent, and compare fractions and decimals
5TH	Multiply and divide whole numbers
	Compare, add, and subtract fractions and decimals
	Solve problems with perimeter and area
6TH	Multiply and divide fractions and decimals
	Use all operations on integers
	Analyze properties and measures with 2- and 3-D shapes
7TH	Use all operations on positive and negative fractions
	Solve problems with percent, ratio, rate, and proportion
	Relate similar triangles with slope of a line
8TH	

DOING WHAT WORKS
U.S. Department of Education

* For full report, including text for the benchmarks, please see: www.ed.gov/about/bdscomm/list/mathpanel/report/final-report.pdf