



Instructional Shifts in Mathematics

<p>1. Focus strongly where the Standards focus</p>	<p>Focus: The Standards call for a greater focus in mathematics. Rather than racing to cover topics in a mile-wide, inch-deep curriculum, the Standards require us to significantly narrow and deepen the way time and energy is spent in the math classroom. We focus deeply on the major work* of each grade so that students can gain strong foundations: solid conceptual understanding, a high degree of procedural skill and fluency, and the ability to apply the math they know to solve problems inside and outside the math classroom.</p>
<p>2. Coherence: think across grades, and link to major topics within grades</p>	<p>Thinking across grades: The Standards are designed around coherent progressions from grade to grade. Learning is carefully connected across grades so that students can build new understanding onto foundations built in previous years. Each standard is not a new event, but an extension of previous learning.</p> <p>Linking to major topics: Instead of allowing additional or supporting topics to detract from the focus of the grade, these concepts serve the grade level focus. For example, instead of data displays as an end in themselves, they are an opportunity to conduct grade-level tasks.</p>
<p>3. Rigor: characterized by 3 key components:</p> <ul style="list-style-type: none"> • Conceptual Understanding, • Procedural Skill and Fluency • Application <p><i>with equal intensity</i></p>	<p>Rigor: The Standards are characterized by 3 key components: conceptual understanding, procedural skill and fluency and application with equal intensity to each component. Rigor does not imply that math is simply harder or expected to be mastered at a more rapid pace. Rigor in this sense indicates that students understand the mathematics (rather than simply focusing on memorization or tricks), have procedural skill and fluency with math foundations, and are able to apply these understandings and skills using cognitively demanding tasks.</p>

Highlights of Major Work in Grades K–8

- K Counting and cardinality—relationship between counting, numbers and quantities
- 1–2 Addition and subtraction—concepts, skills, and problem solving; place value
- 3–5 Multiplication and division of whole numbers and fractions—concepts, skills, and problem solving
- 6 Ratios and proportional relationships; early expressions and equations
- 7 Ratios and proportional relationships; arithmetic of rational numbers
- 8 Linear algebra and linear functions