

Shifts in Mathematics	
Shift 1 - Focus	Teachers use the power of the eraser and significantly narrow and deepen the scope of how time and energy is spent in the math classroom. They do so in order to focus deeply on only the concepts that are prioritized in the standards so that students reach strong foundational knowledge and deep conceptual understanding and are able to transfer mathematical skills and understanding across concepts and grades.
Shift 2 - Coherence	Principals and teachers carefully connect the learning within and across grades so that, for example, fractions or multiplication spiral across grade levels and students can build new understanding onto foundations built in previous years. Teachers can begin to count on deep conceptual understanding of core content and build on it. Each standard is not a new event, but an extension of previous learning.
Shift 3 - Fluency	Students are expected to have speed and accuracy with simple calculations; teachers structure class time and/or homework time for students to memorize, through repetition, core functions (found in the attached list of fluencies) such as multiplication tables so that they are more able to understand and manipulate more complex concepts.
Shift 4 – Deep Understanding	Teachers teach more than “how to get the answer” and instead support students’ ability to access concepts from a number of perspectives so that students are able to see math as more than a set of mnemonics or discrete procedures. Students demonstrate deep conceptual understanding of core math concepts by applying them to new situations, as well as writing and speaking about their understanding.
Shift 5 - Application	Students are expected to use math and choose the appropriate concept for application even when they are not prompted to do so. Teachers provide opportunities at all grade levels for students to apply math concepts in “real world” situations. Teachers in content areas outside of math, particularly science, ensure that students are using math – at all grade levels – to make meaning of and access content.
Shift 6 – Dual Intensity	Students are practicing and understanding. There is more than a balance between these two things in the classroom – both are occurring with intensity. Teachers create opportunities for students to participate in “drills” and make use of those skills through extended application of math concepts. The amount of time and energy spent practicing and understanding learning environments is driven by the specific mathematical concept and therefore, varies throughout the given school year.

Grade	Priorities in Support of Rich Instructions and Expectations of Fluency and Conceptual Understanding
K-2	Addition and subtraction, measurement using whole number quantities
3-5	Multiplication and division of whole numbers and fractions
6	Ratios and proportional reasoning; early expressions and equations
7	Ratios and proportional reasoning; arithmetic of rational numbers
8	Linear algebra

Priorities for Focus

	10% Sample	20% Rethink and Link	70% Intensive Focus
K-2 examples	<ul style="list-style-type: none"> Patterns Statistics/Data Probability Estimating computations 	<ul style="list-style-type: none"> Geometry and measurement 	<ul style="list-style-type: none"> Addition and subtraction concepts, skills, and problem solving
3-5 examples	<ul style="list-style-type: none"> Patterns Statistics/Data Probability 	<ul style="list-style-type: none"> Area, volume 	<ul style="list-style-type: none"> Multiplication and division of whole numbers and fractions, balance of concepts, skills, problem solving
6-8 examples	<ul style="list-style-type: none"> Statistics 	<ul style="list-style-type: none"> Quantitative relationships and functions 	<ul style="list-style-type: none"> Proportional reasoning and linearity Algebra Geometric measurement