Emphases in Common Core

cted in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. The assessments will mirror the message that is communicated here: Major Clusters will be a majority

at supporting the Major Clusters and Additional Clusters will be

Evaluate instructional materials taking the cluster level emphases into account. The major work of the grade must be presented with the highest possible quality; the supporting work of the grade should indeed support the major focus, not detract from it.

Set priorities for other implementation efforts taking the emphases into account, such as staff development; new curriculum development; or revision of existing formative or summative testing at the state, district or school level.

Don't …

Neglect any material in the standards. (Instead, use the information provided to connect Supporting Clusters to the other work of the grade.)

Sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.

Use the cluster headings as a replacement for the standards. All features of the standards matter — from the practices to surrounding text to the particular wording of individual content standards. Guidance is given at the cluster level as a way to talk about the content with the necessary specificity yet without going so far into detail as to compromise the coherence of the standards.

Explanations of terms used:

Major clusters – areas of intensive focus, where students need fluent understanding and application of the core concepts (approximately 70%).

Supporting clusters – rethinking and linking; areas where some material is

Kindergarten

Major	Supporting	Additional
Counting and Cardinality	**Geometry**	**Measurement and Data**
Know number names and count sequence.	Identify and describe shapes.	o Describe and compare measurable attributes.
Count to tell the number of objects.	Analyze, compare, create, and compose shapes.	o Classify objects in categories.
Compare numbers.		
Operations and Algebraic Thinking		
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.		
Number and Operations in Base Ten		
Work with numbers 11 19 to grain foundations for place value.		

Depth Opportunities:

CC 4, 5, 6; OA 2, 4

Grade 1

Grade 2

Major	Supporting	Additional

Operations and

Grade 3

Major	Supporting	Additional

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

Understand the properties of multiplication and the relationship between multiplication and division.

Multiply and divide within 100.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations – Fractions

Develop understanding of fractions as numbers.

Measurement and Data

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

Geometry

Reason with shapes and their attributes.[1]

Measurement and Data

Represent and interpret data. [2]

Number and Operations in Base Ten

- Use place value understanding and properties of operations to perform multi digit arithmetic.

Measurement and Data

- Geometric measurement: recognize

Grade 4

Grade 5

Major	Supporting	Additional
Number and Operations in Base Ten Understand the place value system. Perform operations with multi digit whole numbers and with decimals to hundredths. **Number and Operations – Fractions** Use equivalent fractions as a strategy to add and subtract fractions. Apply and extend previous understandings of multiplication and division to multiply and divide fractions. **Measurement and Data** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	**Measurement and Data** Represent and interpret data. [5] Convert like measurement units within a given measurement system. [6]	**Operations and Algebraic Thinking** ○ Write and interpret numerical expressions. ○ Analyze patterns and relationships. **Geometry** ○ Graph points on the coordinate plane to solve real world and mathematical problems. ○ Classify two dimensional figures into categories based on their properties.

Depth Opportunities:

NBT 1, 6; NF 2, 4; MD 5

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[5] *The standard in this cluster provides an opportunity for solving real world problems with operations on fractions, connecting directly to both number and Operations – Fractions clusters.*

[6] *Work in these standards supports computation with decimals. For example,*

Grade 6

Major	Supporting	Additional

Ratios and Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems.

The Number System

Apply and extend previous understandings of numbers to the system of rational numbers.

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

Expressions and

Grade 7

Major	Supporting	Additional
Ratios and Proportional Relationships	**Statistics and Probability**	**Statistics and Probability**
Analyze proportional relationships and use them to solve real world and mathematical problems.	Use random sampling to draw inferences about a population. [8]	o Draw informal comparative inferences about two populations.
The Number System	Investigate chance processes and develop, use, and evaluate probability models. [9]	**Geomtetry**
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.		o Solve real life and mathematical problems involving angle measure, area, surface area, and volume.
Expressions and Equations		o Draw, construct and describe geometrical figures and describe the relationships between them.
Use properties of operations to generate equivalent expressions.		
Solve real life and mathematical problems using numerical and algebraic expressions and equations.		

Depth Opportunities:

RP 2; NS 3; EE 3, 4; G 6

Grade 8

Major	Supporting	Additional
Expressions and Equations Work with radicals and integer exponents. Understand the connections between proportional relationships, lines, and linear equations. Analyze and solve linear equations and pairs of simultaneous linear equations. **Functions** Define, evaluate, and compare functions. **Geometry** Understand and apply the Pythagorean Theorem. Understand congruence and similarity using physical models, transparencies, or geometry software.	**The Number System** Know that there are numbers that are not rational, and approximate them by rational numbers. [10] **Functions** Use functions to model relationships between quantities. [11] **Statistics and Probability** Investigate patterns of association in bivariate data. [12]	**Geometry** ○ Solve real world and mathematical problems involving volume of cylinders, cones, and spheres.

Depth Opportunities:

EE 5, 7, 8; F 2; G 7

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[10] *Work with the number system in this grade is intimately related to work with radicals, and both of these may be connected to the Pythagorean Theorem as well as to volume problems, e.g., in which a cube has known volume but unknown edge lengths.*

[11] *The work in this cluster involves functions for modeling linear relationships and a rate of change/initial value, which supports work with proportional relationships and setting up linear equations.*

[12] *Looking for patterns in scatterplots and using linear models to describe data are directly connected to the work in the Expressions and Equations clusters. Together, these represent a connection to the Standard for Mathematical Practice Model with mathematics.*