

Kindergarten

Focus	Additional	Sample
<p>Counting and Cardinality</p> <ul style="list-style-type: none"> ■ Know number names and count sequence. ■ Count to tell the number of objects. ■ Compare numbers. <p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ■ Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. <p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> ■ Work with numbers 11-19 to gain foundations for place value. 	<p>Geometry</p> <ul style="list-style-type: none"> □ Identify and describe shapes. □ Analyze, compare, create, and compose shapes. 	<p>Measurement and Data</p> <ul style="list-style-type: none"> ○ Describe and compare measurable attributes. ○ Classify objects in categories.

Depth Opportunities:

CC 4, 5, 6; OA 2, 4

Grade 1

Focus	Additional	Sample
<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ■ Represent and solve problems involving addition and subtraction. ■ Understand and apply properties of operations and the relationship between addition and subtraction. ■ Add and subtract within 20. ■ Work with addition and subtraction equations. <p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> ■ Extend the counting sequence. ■ Understand place value. ■ Use place value understanding and properties of operations to add and subtract. <p>Measurement and Data</p> <ul style="list-style-type: none"> ■ Measure lengths indirectly and by iterating length units. 	<p>Geometry</p> <ul style="list-style-type: none"> □ Reason with shapes and their attributes. 	<p>Measurement and Data</p> <ul style="list-style-type: none"> ○ Tell and write time. ○ Represent and interpret data.

Depth Opportunities:

OA 1, 6; NBT 2, 4; MD 2

Grade 2

Focus	Additional	Sample
<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ■ Represent and solve problems involving addition and subtraction. ■ Add and subtract within 20. ■ Work with equal groups of objects to gain foundations for multiplication. <p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> ■ Understand place value. ■ Use place value understanding and properties of operations to add and subtract. <p>Measurement and Data</p> <ul style="list-style-type: none"> ■ Measure and estimate lengths in standard units. ■ Relate addition and subtraction to length. 	<p>Geometry</p> <ul style="list-style-type: none"> □ Reason with shapes and their attributes. 	<p>Measurement and Data</p> <ul style="list-style-type: none"> ○ Work with time and money. ○ Represent and interpret data.

Depth Opportunities:

OA 1, 2; NBT 1, 7; MD 5

Grade 3

Focus	Additional	Sample
<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ■ Represent and solve problems involving multiplication and division. ■ Understand the properties of multiplication and the relationship between multiplication and division. ■ Multiply and divide within 100.¹ ■ Solve problems involving the four operations, and identify and explain patterns in arithmetic. <p>Number and Operations – Fractions</p> <ul style="list-style-type: none"> ■ Develop understanding of fractions as numbers. <p>Measurement and Data</p> <ul style="list-style-type: none"> ■ 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. 	<p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> □ Use place value understanding and figures and distinguish between linear and area measures. <p>Measurement and Data</p> <ul style="list-style-type: none"> □ Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. 	<p>Measurement and Data</p> <ul style="list-style-type: none"> ○ Represent and interpret data. (<i>Opportunity to link to multiplication and division problem solving.</i>) ○ Reason with shapes and their attributes.

Depth Opportunities:

OA 3, 6; NF 3; MD 2, 7

¹Cluster contains a fluency standard.

Grade 4

Focus	Additional	Sample
<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ■ Use the four operations with whole numbers to solve problems. <p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> ■ Generalize place value understanding for multi-digit whole numbers. ■ Use place value understanding and properties of operations to perform multi-digit arithmetic.¹ <p>Number and Operations – Fractions</p> <ul style="list-style-type: none"> ■ Extend understanding of fraction equivalence and ordering. ■ Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. ■ Understand decimal notation for fractions, and compare decimal fractions. 	<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> □ Gain familiarity with factors and multiples. <p>Measurement and Data</p> <ul style="list-style-type: none"> □ Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. □ Geometric measurement: understand concepts of angle and measure angles. □ Draw and identify lines and angles, and classify shapes by properties of their lines and angles. 	<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ○ Generate and analyze patterns. <p>Measurement and Data</p> <ul style="list-style-type: none"> ○ Represent and interpret data.

Depth Opportunities:

NBT 5, 6; NF 1, 3, 4

¹Cluster contains a fluency standard.

Grade 5

Focus	Additional	Sample
<p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> ■ Understand the place value system. ■ Perform operations with multi-digit whole numbers and with decimals to hundredths.¹ <p>Number and Operations – Fractions</p> <ul style="list-style-type: none"> ■ 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. <p>Measurement and Data</p> <ul style="list-style-type: none"> ■ Convert like measurement units within a given measurement system. ■ Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. 	<p>Geometry</p> <ul style="list-style-type: none"> □ Graph points on the coordinate plane to solve real-world and mathematical problems. □ Classify two-dimensional figures into categories based on their properties. 	<p>Operations and Algebraic Thinking</p> <ul style="list-style-type: none"> ○ Write and interpret numerical expressions. ○ Analyze patterns and relationships. <p>Measurement and Data</p> <ul style="list-style-type: none"> ○ Represent and interpret data.

Depth Opportunities:

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

¹Cluster contains a fluency standard.

Grade 6

Focus	Additional	Sample
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> ■ Understand ratio concepts and use ratio reasoning to solve problems. <p>The Number System</p> <ul style="list-style-type: none"> ■ Apply and extend previous understandings of multiplication and division to divide fractions by fractions. ■ Apply and extend previous understandings of arithmetic to algebraic expressions. <p>Expressions and Equations</p> <ul style="list-style-type: none"> ■ Reason about and solve one-variable equations and inequalities. ■ Represent and analyze quantitative relationships between dependent and independent variables. 	<p>The Number System</p> <ul style="list-style-type: none"> □ Compute fluently with multi-digit numbers and find common factors and multiples.¹ □ Apply and extend previous understandings of numbers to the system of rational numbers. <p>Geometry</p> <ul style="list-style-type: none"> □ Solve real-world and mathematical problems involving area, surface area, and volume. 	<p>Statistics and Probability</p> <ul style="list-style-type: none"> ○ Develop understanding of statistical variability. ○ Summarize and describe distributions.

Depth Opportunities:

RP 3; NS 1; NS 8; EE 3, 7

¹Cluster contains a fluency standard.

Grade 7

Focus	Additional	Sample
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> ■ Analyze proportional relationships and use them to solve real-world and mathematical problems. <p>The Number System</p> <ul style="list-style-type: none"> ■ Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. <p>Expressions and Equations</p> <ul style="list-style-type: none"> ■ Use properties of operations to generate equivalent expressions. <p>Geometry</p> <ul style="list-style-type: none"> ■ Solve real-life and mathematical problems using numerical and algebraic expressions and equations.¹ 	<p>Expressions and Equations</p> <ul style="list-style-type: none"> □ Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. <p>Geometry</p> <ul style="list-style-type: none"> □ Draw, construct and describe geometrical figures and describe the relationships between them. <p>Statistics and Probability</p> <ul style="list-style-type: none"> □ Use random sampling to draw inferences about a population. 	<p>Statistics and Probability</p> <ul style="list-style-type: none"> ○ Investigate chance processes and develop, use, and evaluate probability models. ○ Draw informal comparative inferences about two populations.

Depth Opportunities:

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

¹Cluster contains a fluency standard.

Grade 8

Focus	Additional	Sample
<p>Expressions and Equations</p> <ul style="list-style-type: none"> ■ Work with radicals and integer exponents. <p>Expressions and Equations</p> <ul style="list-style-type: none"> ■ Understand the connections between proportional relationships, lines, and linear equations. ■ Analyze and solve linear equations and pairs of simultaneous linear equations.¹ <p>Functions</p> <ul style="list-style-type: none"> ■ Define, evaluate, and compare functions. <p>Geometry</p> <ul style="list-style-type: none"> ■ Understand and apply the Pythagorean Theorem. ■ Understand congruence and similarity using physical models, transparencies, or geometry software. 	<p>The Number System</p> <ul style="list-style-type: none"> □ Know that there are numbers that are not rational, and approximate them by rational numbers. <p>Functions</p> <ul style="list-style-type: none"> □ Use functions to model relationships between quantities. <p>Geometry</p> <ul style="list-style-type: none"> □ Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. 	<p>Statistics and Probability</p> <ul style="list-style-type: none"> ○ Investigate patterns of associate in bivariate data.

Depth Opportunities:

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

¹Cluster contains a fluency standard.

High School: Number and Quantity

Focus	Additional	Sample
<p>Quantities</p> <ul style="list-style-type: none"> ■ Reason quantitatively and use units to solve problems. <p>The Real Number System</p> <ul style="list-style-type: none"> ■ Extend the properties of exponents to rational exponents. 	<p>The Complex Number System</p> <ul style="list-style-type: none"> □ Perform arithmetic operations with complex numbers. <p>The Real Number System</p> <ul style="list-style-type: none"> □ Use properties of rational and irrational numbers. 	<p>The Complex Number System</p> <ul style="list-style-type: none"> ○ Represent complex numbers and their operations on the complex plane. ○ Use complex numbers in polynomial identities and equations. <p>Vector and Matrix Quantities</p> <ul style="list-style-type: none"> ○ Represent and model with vector quantities. ○ Perform operations on vectors. ○ Perform operations on matrices and use matrices in applications.

Depth Opportunities:

N–NQ 1

High School: Algebra

Focus	Additional	Sample
<p>Seeing the Structure in Expressions</p> <ul style="list-style-type: none"> ■ Interpret the structure of expressions. ■ Write expressions in equivalent forms to solve problems. <p>Arithmetic with Polynomials and Rational Expressions</p> <ul style="list-style-type: none"> ■ Perform arithmetic operations on polynomials. ■ Understand the relationship between zeros and factors of polynomials. <p>Creating Equations</p> <ul style="list-style-type: none"> ■ Create equations that describe numbers or relationships. <p>Reasoning with Equations and Inequalities</p> <ul style="list-style-type: none"> ■ Understand solving equations as a process of reasoning and explain the reasoning. ■ Solve equations and inequalities in one variable. ■ Solve systems of equations. 	<p>Arithmetic with Polynomials and Rational Expressions</p> <ul style="list-style-type: none"> □ Rewrite rational expressions. <p>Reasoning with Equations and Inequalities</p> <ul style="list-style-type: none"> □ Represent and solve equations and inequalities graphically. 	<p>Arithmetic with Polynomials and Rational Expressions</p> <ul style="list-style-type: none"> ○ Use polynomial identities to solve problems.

Depth Opportunities:

A–SSE 2, 3; A–APR 1; A–CED 3; A–REI 4

High School: Functions

Focus	Additional	Sample
<p>Interpreting Functions</p> <ul style="list-style-type: none"> ■ Understand the concept of a function and understand function notation. ■ Interpret functions that arise in applications in terms of the context. ■ Analyze functions using different representations. <p>Building Functions</p> <ul style="list-style-type: none"> ■ Build a function that models a relationship between two quantities. <p>Linear, Quadratic and Exponential Models</p> <ul style="list-style-type: none"> ■ Construct and compare linear, quadratic, and exponential models and solve problems. ■ Interpret expressions for functions in terms of the situation they model. 	<p>Building Functions</p> <ul style="list-style-type: none"> □ Build new functions from existing functions. 	<p>Trigonometric Functions</p> <ul style="list-style-type: none"> ○ Extend the domain of trigonometric functions using the unit circle. ○ Model periodic phenomena with trigonometric functions. ○ Prove and apply trigonometric identities.

Depth Opportunities:

F-IF 4, 8, 9; F-LE 1

High School: Geometry

Focus	Additional	Sample
<p>Congruence</p> <ul style="list-style-type: none"> ■ Prove geometric theorems. <p>Expressing Geometric Properties with Equations</p> <ul style="list-style-type: none"> ■ Use coordinates to prove simple theorems algebraically. <p>Similarity, Right Triangles, and Trigonometry</p> <ul style="list-style-type: none"> ■ Define trigonometric ratios and solve problems involving right triangles. <p>Modeling with Geometry</p> <ul style="list-style-type: none"> ■ Apply geometric concepts in modeling situations. 	<p>Congruence</p> <ul style="list-style-type: none"> □ Experiment with transformations in the plane. □ Understand congruence in terms of rigid motions. □ Make geometric constructions. <p>Circles</p> <ul style="list-style-type: none"> □ Understand and apply theorems about circles. □ Find arc lengths and areas of sectors of circles. <p>Similarity, Right Triangles, and Trigonometry</p> <ul style="list-style-type: none"> □ Understand similarity in terms of similarity transformations. 	<p>Similarity, Right Triangles, and Trigonometry</p> <ul style="list-style-type: none"> ○ Prove theorems involving similarity. ○ Apply trigonometry to general triangles. <p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> ○ Explain volume formulas and use them to solve problems. ○ Visualize relationships between two-dimensional and three-dimensional objects. <p>Expressing Geometric Properties with Equations</p> <ul style="list-style-type: none"> ○ Translate between the geometric description and the equation for a conic section. (Here because of circles.)

Depth Opportunities:

GPE 1, 4, 7; G–MG 2

High School: Statistics and Probability

Focus	Additional	Sample
<p>Interpreting Categorical and Quantitative Data</p> <ul style="list-style-type: none"> ■ Summarize, represent, and interpret data on a single count or measurement variable. ■ Summarize, represent, and interpret data on two categorical and quantitative variables. <p>Making Inferences and Justifying Conclusions</p> <ul style="list-style-type: none"> ■ Make inferences and justify conclusions from sample surveys, experiments, and observational studies. 	<p>Making Inferences and Justifying Conclusions</p> <ul style="list-style-type: none"> □ Understand and evaluate random processes underlying statistical experiments. <p>Interpreting Categorical and Quantitative Data</p> <ul style="list-style-type: none"> □ Interpret linear models. 	<p>Conditional Probability and the Rules of Probability</p> <ul style="list-style-type: none"> ○ Understand independence and conditional probabilities of compound events in a uniform probability model. ○ Use the rules of probability to compute probabilities of compound events in a uniform probability model. <p>Using Probability to Make Decisions</p> <ul style="list-style-type: none"> ○ Calculate expected values and use them to solve problems. ○ Use probability to evaluate outcomes of decisions.

Depth Opportunities:

S-ID 3, 5, 6, 9; S-IC 3