Critical Areas and Changes in Grade Kindergarten

Critical Areas:

1. Developing concepts of counting & cardinality
2. Developing beginning understanding of operations & algebraic thinking
3. Identifying and describing shapes in space

New to Kindergarten:

- Fluently add and subtract within 5 (K.CC.5)
- Compose and decompose numbers from 11 to 19 into tens and ones (K.NBT.1)
- Non-specification of shapes (K.G)
- Identify shapes as two-dimensional or three-dimensional (K.G.3)
- Compose simple shapes to form larger shapes (K.G.6)

Moved from Kindergarten:

- Equal Shares (1.02)
- Calendar & Time (2.02)
- Data Collection (4.01, 4.02)
- Repeating Patterns (5.02)

Note:
Topics may appear to be similar between the CCSS and the 2003 NCSCOS; however, the CCSS may be presented at a higher cognitive demand.

Critical Areas and Changes in Grade 1

Critical Areas:

1. Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20
2. Developing understanding of whole number relationships and place value, including grouping in tens and ones
3. Developing understanding of non-standard linear measurement and measuring lengths as iterating length units
4. Reasoning about attributes of, and composing and decomposing geometric shapes

New to 1st Grade:

- Properties of Operations – Commutative and Associative (1.0A.3)
- Counting sequence to 120 (1.NBT.1)
- Comparison Symbols (<, >) (1.NBT.3)
- Defining and non-defining attributes of shapes (1.G.1)
- Half-circles, quarter-circles, cubes (1.G.2)
- Relationships among halves, fourths and quarters (1.G.3)

Moved from 1st Grade:

- Estimation (1.01f)
- Groupings of 2's, 5's, and 10's to count collections (1.02)
- Fair Shares (1.04)
- Specified types of data displays (4.01)
- Certain, impossible, more likely or less likely to occur (4.02)
- Sort by two attributes (5.01)
- Venn Diagrams (5.02)
- Extending patterns (5.03)

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Critical Areas and Changes in Grade 2

Critical Areas:

1. Extending understanding of base-ten system
2. Building fluency with addition and subtraction within 100
3. Understanding need for and appropriate use of standard units of measure
4. Describing and analyzing shapes

New to 2nd Grade:

- Addition with rectangular array (2.OA.4)
- Count within 1,000 by 5s, 10s, 100s (2.NBT.2)
- Mentally add and subtract by 10 & 100 (2.NBT.8)
- Measurement concepts (2.MD.2, 2.MD.4, 2.MD.5, 2.MD.6,)
- Money (2.MD.8)
- Line Plots, Picture graphs, bar graphs (2.MD.9, 2.MD.10)

Moved from 2nd Grade:

- Estimation (1.01e, 1.04b)
- Temperature (2.01b)
- Cut and rearrange 2-D and 3-D figures (3.02)
- Symmetric and congruent figures (3.03a, 3.03b)
- Venn diagrams and pictographs (4.01)
- Probability (4.02)
- Repeating and growing patterns (5.01)

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Critical Areas and Changes in Grade 3

Critical Areas:

1. Develop understanding of multiplication and division and strategies for multiplication and division within 100
2. Develop understanding of fractions, especially unit fractions (fractions with numerator 1)
3. Develop understanding of the structure of rectangular arrays and of area
4. Describe and analyze two-dimensional shapes

New to 3rd Grade:

- Area and perimeter (3.MD.5, 3.MD.6, 3.MD.7, 3.MD.8)

Moved from 3rd Grade:

- Permutation and combinations (4.02, 4.03)
- Rectangular Coordinate System (3.02)
- Circle graphs (4.01)

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Critical Areas and Changes in Grade 4

Critical Areas:

1. Developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends
2. Developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers
3. Understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry

New to 4th Grade:

- Factors and multiples (4.OA.4)
- Multiply a fraction by a whole number (4.NF.4)
- Conversions of measurements within the same system (4.MD.1, 4.MD.2)
- Angles and angle measurements (4.MD.5 4.MD.6, 4.MD.7)
- Lines of symmetry (4.G.3)

Moved from 4th Grade:

- Coordinate system (3.01)
- Transformations (3.03)
- Line graphs and bar graphs (4.01)
- Data - median, range, mode, comparing sets data (4.03)
- Probability (4.04)
- Number relationships (5.02, 5.03)

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Critical Areas and Changes in Grade 5

Critical Areas:

1. Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions)
2. Extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations
3. Developing understanding of volume

New to 5th Grade:

- Patterns in zeros when multiplying (5.NBT.2)
- Extend understandings of multiplication and division of fractions (5.NF.3, 5.NF.45.NF.5, 5.NF.7)
- Conversions of measurements within the same system (5.MD.1)
- Volume (5.MD.3, 5.MD.4, 5.MD.5)
- Coordinate System (5.G.1, 5.02)
- Two-dimensional figures – hierarchy (5.G.3, 5.G.4)
- Line plot to display measurements (5.MD.2)

Moved from 5th Grade:

- Estimate measure of objects from on system to another system (2.01)
- Measure of angles (2.01)
- Describe triangles and quadrilaterals (3.01)
- Angles, diagonals, parallelism and perpendicularity (3.02, 3.04)
- Symmetry - line and rotational (3.03)
- Data - stem-and-leaf plots, different representations, median, range and mode (4.01, 4.02, 4.03)
- Constant and carrying rates of change (5.03)

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Critical Areas and Changes in Grade 6

Critical Areas:

1. Connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems
2. Completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers
3. Writing, interpreting, and using expressions and equations
4. Developing understanding of statistical thinking

New to 6th Grade:

- Distributive Property
- Number Line
- Volume of Right Rectangular Prisms
- Surface Area
- Vertical and Horizontal Distances on the Coordinate Plane
- Statistical Variability (M.A.D. and Interquartile Range)

Moved from 6th Grade:

- Equivalent Fractions, Decimals and Percents
- Exponential and Scientific Notation
- Area and Circumference of Circles
- Probability
- Transformations
- Two-Step Equations
- Solving One- and Two-Step Inequalities

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Critical Areas and Changes in Grade 7

Critical Areas:

1. Developing understanding of and applying proportional relationships
2. Developing understanding of operations with rational numbers and working with expressions and linear equations
3. Solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume
4. Drawing inferences about populations based on samples

New to 7th Grade:

- Constant of Proportionality
- Area and Circumference of a Circle
- Surface Area and Volume of Pyramids
- Angles and Triangles
- Probability
- Equivalent Expressions

Moved from 7th Grade:

- Similar and Congruent Polygons
- Surface Area and Volume of Cylinders
- Box Plots and Histograms
- Statistical Measures
- Linear Relations and Functions
- Views from 3-Dimensional Figures

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Critical Areas and Changes in Grade 8

Critical Areas:

1. Formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations
2. grasping the concept of a function and using functions to describe quantitative relationships
3. analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem

New to 8th Grade:

- Integer Exponents
- Volumes of Cones, Cylinders, and Spheres
- Transformations
- Congruent and Similar Figures
- Proof of Pythagorean Theorem and Converse
- Distance Formula
- Angles (exterior angles, parallel cut by transversal)
- Unit Rate as Slope
- Qualitative Graphs

Moved from 8th Grade:

- Linear Inequalities
- Indirect Measurement
- Effect of Dimension Changes
- Misuses of Data

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