



Correlation of *Core Knowledge® Sequence* & Colorado Grade Level Expectations

Core Knowledge® Content (Mathematics-Grade 3)	Colorado Grade Level Expectations (Grade 3-Mathematics)
I. Numbers and Number Sense	
▪	3.1.2.A read and write numerals from 0 to 10,000 in meaningful contexts 3.1.2.B read and write the number words for selected numbers from zero to one thousand
▪	3.1.2.C order according to place value (for example, given 9 ones, 5 tens, 4 hundreds, and 7 thousands, the student can write the number 7,459; given the number 7,459, the student can show 7 thousands, 4 hundreds, 5 tens, and 9 ones) 3.1.2.D identify place value through ten thousands (for example, in 86,243, '6' is in the thousands place)
▪	3.1.1.B apply equalities and inequalities with whole numbers from 0 to 10,000 using the symbols =, <, > 3.1.3.C sequence selected whole numbers from 0 to 10,000
▪	3.1.3.A count forward from any even number by 2's; and from any number by 10's and 100's (for example, 216, 316, 416, 516, ...)
▪	3.1.2.E write four-digit numbers in expanded form (for example, $7,459 = 7,000 + 400 + 50 + 9$)
▪	3.1.3.D locate and label $\frac{1}{2}$'s and multiples of $\frac{1}{4}$'s between whole numbers on the number line
▪	3.1.3.B use ordinal positions for selected whole numbers greater than thirty-first
▪	3.1.1.A using objects and pictures, represent whole numbers including odds and evens from 0 to 10,000
▪	3.1.5.A estimate sums and differences first by rounding to the nearest ten and hundred prior to performing the operation and, then, using the estimate to determine the reasonableness of the solution 3.1.5.B estimate products by rounding to the nearest ten prior to performing the operation, and then using the estimate to determine the reasonableness of the solution
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▪	3.3.1.A select the appropriate type of graph to use in various problem-solving situations 3.3.1.C use a computer to create bar and circle graphs
▪	3.3.1.B collect and display data using surveys, tallies, bar graphs, dot plots, pictographs, or tables 3.3.3.B analyze the results of rolling a number cube 3.3.4.A determine the number of outcomes when rolling a number cube
II. Fractions and Decimals	
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▪	3.1.1.C using concrete materials (for example, fraction strips), compare and order fractions with like denominators, such as halves, thirds, fourths, eighths, and tenths
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III. Money	
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Correlation of the *Core Knowledge Sequence* and the Colorado Grade Level Expectations

▪	3.1.1.E using concrete materials, make change up to \$1.00
▪	3.6.2.B using coins as models, add and subtract decimals in which sums and differences may exceed \$1.00
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IV. Computation	
A. Addition	
▪	3.6.3.C continue automatic recall of basic addition and subtraction facts
▪	3.1.5.A estimate sums and differences first by rounding to the nearest ten and hundred prior to performing the operation and, then, using the estimate to determine the reasonableness of the solution 3.6.4.A use estimation techniques such as front-end rounding, rounding, and compatible numbers (numbers whose sum is 10, 100, 100, 1,000, . . .) before performing operations
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▪	3.6.1.A using concrete materials, demonstrate and verbally explain addition and subtraction of whole numbers with regrouping for up to four-digit numbers 3.6.4.B using paper-and-pencil, demonstrate the four basic operations of whole numbers including: a) addition and subtraction of four digits, b) multiplication of two digits by one digit, regrouping included, and c) division of two digits by a one-digit divisor obtaining one-digit quotients
B. Subtraction	
▪	3.6.1.D using paper-and pencil, demonstrate the inverse relationship of addition and subtraction of whole numbers
▪	3.6.3.C continue automatic recall of basic addition and subtraction facts
▪	3.1.5.A estimate sums and differences first by rounding to the nearest ten and hundred prior to performing the operation and, then, using the estimate to determine the reasonableness of the solution 3.6.4.A use estimation techniques such as front-end rounding, rounding, and compatible numbers (numbers whose sum is 10, 100, 100, 1,000, . . .) before performing operations
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▪	3.6.1.A using concrete materials, demonstrate and verbally explain addition and subtraction of whole numbers with regrouping for up to four digit numbers 3.6.4.B using paper-and-pencil, demonstrate the four basic operations of whole numbers including: a) addition and subtraction of four digits, b) multiplication of two digits by one digit, regrouping included, and c) division of two digits by a one-digit divisor obtaining one-digit quotients
C. Multiplication	
▪	3.6.3.A demonstrate understanding of basic multiplication and division facts of 1's, 2's, 3's, 5's, and 10's 3.6.3.B demonstrate automatic recall of basic multiplication facts of 1's, 2's, 3's, 5's, and 10's
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▪	3.6.1.B using concrete materials or pictures, demonstrate multiplication with regrouping of whole numbers 3.6.4.B using paper-and-pencil, demonstrate the four basic operations of whole numbers including: a) addition and subtraction of four digits, b) multiplication of two digits by one digit, regrouping included, and c) division of two digits by a one-digit divisor obtaining one-digit quotients
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▪	3.1.5.B estimate products by rounding to the nearest ten prior to performing the operation, and then using the estimate to determine the reasonableness of the solution 3.6.4.A use estimation techniques such as front-end rounding, rounding, and compatible numbers (numbers whose sum is 10, 100, 100, 1,000, . . .) before performing operations
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Correlation of the *Core Knowledge Sequence* and the Colorado Grade Level Expectations

D. Division	
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▪	3.6.3.A demonstrate understanding of basic multiplication and division facts of 1's, 2's, 3's, 5's, and 10's
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▪	3.6.4.B using paper-and-pencil, demonstrate the four basic operations of whole numbers including: a) addition and subtraction of four digits, b) multiplication of two digits by one digit, regrouping included, and c) division of two digits by a one-digit divisor obtaining one-digit quotients
▪	3.6.1.C using concrete materials, demonstrate division of whole numbers with remainders as partitioning of sets
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E. Solving Problems and Equations	
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V. Measurement	
A. Linear Measure	
▪	3.5.5.A select the appropriate units of measurement of time, length, area, capacity, weight, and temperature
▪	3.5.1.I describe the units for measuring time, length, area, capacity, and temperature 3.5.1.J know the number of seconds in a minute, hours in a day, days in a month, days in a year, pints in a quart, quarts in a gallon, and centimeters in a meter
▪	3.4.3.A measure the sides and perimeters of geometric shapes to the nearest half inch and centimeter
▪	3.5.1.C estimate and measure the length of objects 3.5.1.D estimate and measure the perimeter of an object with a string measured in U.S. customary and metric units
B. Weight (Mass)	
▪	3.5.1.G estimate and weigh an object on a balance or scale to the nearest ounce 3.5.2.A compare objects according to the measurable attributes of length, area, capacity, weight , and temperature
▪	3.5.1.G estimate and weigh an object on a balance or scale to the nearest ounce 3.5.5.A select the appropriate units of measurement of time, length, area, capacity, weight, and temperature
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C. Capacity (Volume)	
▪	3.5.1.F estimate and measure the capacity of a container in cups, pints, quarts, gallons, and liters 3.5.5.A select the appropriate units of measurement of time, length, area, capacity, weight, and temperature
▪	3.5.1.J know the number of seconds in a minute, hours in a day, days in a month, days in a year, pints in a quart, quarts in a gallon , and centimeters in a meter
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D. Temperature	
▪	3.5.1.H measure temperatures in both Fahrenheit and Celsius 3.5.5.A select the appropriate units of measurement of time, length, area, capacity, weight, and temperature
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E. Time	

Correlation of the *Core Knowledge Sequence* and the Colorado Grade Level Expectations

▪	3.5.1.A tell time to the nearest five minutes, using an analog and digital clock 3.5.5.A select the appropriate units of measurement of time, length, area, capacity, weight, and temperature
▪	3.5.1.B estimate how long a minute is
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VI. Geometry	
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▪	3.4.2.A identify points, lines, line segments, and rays (rays are covered in 4 th grade)
▪	3.4.2.B recognize and identify hexagons, pentagons, and octagons
▪	3.4.2.C classify angles as obtuse, acute, or right (obtuse and acute angles are covered in 4 th grade)
▪	3.4.3.B measure the area of geometric figures using nonstandard units 3.5.1.E estimate and measure areas using nonstandard units 3.5.5.A select the appropriate units of measurement of time, length, area, capacity, weight, and temperature
▪	3.4.1.A compare similarities and differences between the concepts of similarity and congruence (more in depth in 5 th grade) 3.4.1.B make a pattern by rotating, flipping, and sliding a two-dimensional figure 3.4.1.C identify lines of symmetry of regular hexagons, pentagons, and octagons 3.4.4.D investigate and predict the geometric figures that result from cutting along a line of symmetry
▪	3.4.2.G identify cubes, spheres, cylinders, cones, and pyramids 3.4.2.H build cubes (for example, with marshmallows and toothpicks) and spheres (for example, soap bubbles)
Grade level or other area Grade Level Expectations are covered in the <i>Core Knowledge Sequence</i>	Grade Level Expectations not directly covered in the <i>Core Knowledge Sequence</i>, but can be covered in other areas
Grade 2: Mathematics: Money	3.1.1.D demonstrate different combinations of coins for change (for example, 52¢ = 2 quarters and 2 pennies)
Grade 4: Mathematics: Numbers and Number Sense	3.1.3.E locate and label a point in the first quadrant of the coordinate plane (for example, locates the point (11,15))
Grade 1: Mathematics: Computation and Grade 5: Mathematics: Computation	3.1.4.A verify the commutative and associative properties of addition and multiplication of whole numbers
Grade 2: Mathematics: Computation	3.1.4.B verify the multiplication properties of zero and one with whole numbers
Grade 1: Mathematics: Patterns and Classification and Grade 2: Mathematics: Numbers and Number Sense	3.2.1.A reproduce, extend, create, and describe patterns, such as in common fractions, geometric shapes, money, measurement, addition, subtraction, and multiplication facts
Grade 1: Mathematics: Patterns and Classification and Grade 2: Mathematics: Numbers and Number Sense	3.2.1.B find missing elements of patterns and multiples
Grade 4: Mathematics: Numbers and Number Sense	3.2.2.A given data, extend a table and plot points on a coordinate plane
Grade 1: Mathematics: Computation and Grade 5: Mathematics: Computation	3.2.3.A identify a rule using addition or subtraction and solve a problem using the rule
This can be covered in many areas	3.2.4.A determine how the changes in one variable affects the change in the other by addition or subtraction
This can be covered in many areas (History)	3.3.1.D use a timeline to display a sequence of events
Grade 6: Mathematics: Probability and Statistics	3.3.2.A determine the median and mode from a data set
Grade 5: Mathematics: Probability and Statistics	3.3.2.B using various displays of data, interpret and draw conclusions
Grade 5 and 6: Mathematics: Probability and Statistics	3.3.3.A use survey data to make a prediction from various displays of data
Grade 5 and 6: Mathematics: Probability and Statistics	3.3.3.C predict the most likely outcome from spinners
Grade 5 and 6: Mathematics: Probability and Statistics	3.3.3.D analyze the fairness of different spinners
This can be covered in many areas	3.3.4.B using manipulatives or pictures, determine the possible combinations of matching a set containing two elements with a set containing three elements

Correlation of the *Core Knowledge Sequence* and the Colorado Grade Level Expectations

Grade 4: Mathematics: Geometry	3.4.2.D draw obtuse, acute, and right angles
This can be covered in many areas	3.4.2.E compare what is the same and what is different between two)dimensional figures and three)dimensional figures
This can be covered in many areas	3.4.2.F draw rectangles and squares on a coordinate plane and identify the vertices with coordinates
This can be covered in many areas	3.4.4.A draw a picture or diagram to solve a problem (for example, use a number line to locate one half)
This can be covered in many areas	3.4.4.B investigate and predict geometric shapes by combining and subdividing groups of pattern blocks
This can be covered in many areas	3.4.4.C investigate and predict the result of changing the lengths of sides of polygons
This can be covered in many areas	3.5.2.B order objects according to the measurable attributes of length, area, capacity, weight, and temperature
This can be covered in many areas	3.5.2.C compare and order various times
Grade 1: Mathematics: Measurement	3.5.4.A use familiar objects as referents for measurement (for example, the width of the index fingernail equals approximately one centimeter; ten pennies weigh approximately an ounce)
This can be covered in many areas	3.6.1.E using paper-and pencil, demonstrate multiplication of whole numbers as repeated addition
Grade 4: Mathematics: Fractions and Decimals	3.6.2.A using concrete materials, demonstrate addition and subtraction of proper fractions with common denominators of ten or less
This can be covered in many areas	3.6.3.D use a multiplication facts table to locate all factors for a particular product (for example, $6 = 1 \times 6$, $6 = 2 \times 3$, . . .)
This can be covered in many areas	3.6.5.A given a real)world problem)solving situation, use the correct operation (addition, subtraction, or multiplication) and appropriate method (mental arithmetic, estimation, paper)and)pencil, calculator, or computer) to solve the problem
This can be covered in many areas	3.6.5.B determine from real)world problems whether an estimated or exact sum, difference, or product is acceptable