Kindergarten – 5th Grade
Alignment/Comparison of Standards

This document was developed based on the *2007 SC Academic Standards for Mathematics* (2207) which are shown below in the left-hand column. The content of the related *Common Core State Standards for Mathematics* (CCSS-M) and the *South Carolina College- and Career-Ready Standards for Mathematics* (SCCCR-M) was then aligned/compared to each 2007 standard and, when appropriate, set forth in that same row. In some cases there is not an exact match between/among all mathematical aspects of listed standards. As a result, professional judgment should be used when reviewing and utilizing this alignment/comparison document. In addition, as with all support materials, the value comes from educator participation in development; not from a pre-developed tool. Since this document is merely guidance, the actual South Carolina State Board of Education adopted *South Carolina College- and Career-Ready Standards for Mathematics* should be referenced when developing curriculum and other instructional materials.

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Kindergarten Alignment/Comparison

2007 SC Academic Standards for Mathematics	*Common Core Standards for Mathematics*	*South Carolina College- and Career-Ready Standards for Mathematics*
K-2.1 Recall numbers counting forward through 99 and backward from 10	K.CC.1: Count to 100 by ones and by tens. K.CC.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	**K NS.1** Count forward by ones and tens to 100. **K.NS.2** Count forward by ones beginning from any number less than 100.
K-2.2 Translate between numeral and quantity through 31.	K.CC.3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). K.CC.4: Understand the relationship between numbers and	**K.NS.3** Read numbers from 0-20 and represent a number of objects 0-20 with a written numeral. **K.NS.4** Understand the relationship between number and quantity. Connect counting to cardinality by demonstrating an understanding that:

	quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger. K.CC.5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.	**a.** the last number said tells the number of objects in the set (cardinality); **b.** the number of objects is the same regardless of their arrangement or the order in which they are counted (conservation of number); **c.** each successive number name refers to a quantity that is one more and each previous number name refers to a quantity that is one less. **K.NS.5** Count a given number of objects from 1-20 and connect this sequence in a one-to-one manner. **K.NS.6** Recognize a quantity of up to ten objects in an organized arrangement (subitizing).

K–2.3 Compare sets of no more than 31 objects by using the terms *more than, less than,* and *the same as*.	K.CC.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Note: Include groups with up to ten objects.) K.CC.7: Compare two numbers between 1 and 10 presented as written numerals.	**K.NS.7** Determine whether the number of up to ten objects in one group is more than, less than, or equal to the number of up to ten objects in another group using matching and counting strategies. **K.NS.8** Compare two written numerals up to 10 using *more than, less than* or *equal to*.

K–2.4 Represent simple joining and separating situations through 10. K-2.5 Understand that addition results in increase and subtraction results in decrease.	K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	**K.ATO.1** Model situations that involve addition and subtraction within 10 using objects, fingers, mental images, drawings, acting out situations, verbal explanations, expressions, or equations. **K.ATO.3** Compose and decompose numbers up to 10 using objects, drawings, and equations. **K.ATO.4** Create a sum of 10 using objects and drawings when given one of two addends 1-9.
K-2.6 Analyze the magnitude of digits through 99 on the basis of their place values.	K.NBT.1. Compose and decompose numbers from 11 to 19 into 10 ones and some further ones and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of 10 ones and one, two, three, four, five, six, seven, eight, or nine ones.	**K.NSBT.1** Compose and decompose numbers from 11-19 separating ten ones from the remaining ones using objects and drawings.
K–2.7 Represent the place value of each digit in a 2-digit whole number.	Moved to 1st Grade	Moved to 1st Grade

K-2.8 Identify ordinal positions through 31st.		**K.NS.9** Identify first through fifth and last positions in a line of objects.
K-3.1 Identify simple growing patterns.		
K-3.2 Analyze simple repeating and growing relationships to extend patterns.		**K.ATO.6** Describe simple repeating patterns using AB, AAB, ABB, and ABC type patterns.
K-3.3 Translate simple repeating and growing patterns into rules.	Moved to 3rd Grade	Moved to 3rd Grade
K–3.4 Classify objects according to one or more attributes such as color, size, shape and thickness.	K.MD.3: Classify objects or people into given categories; count the numbers in each category and sort the categories by count. (Note: Limit category counts to be less than or equal to 10.)	**K.MDA.3** Sort and classify data into 2 or 3 categories with data not to exceed 20 items in each category.
K–4.1 Identify the 2-dimensional shapes square, circle, triangle, and rectangle and the 3-dimensional shapes cube, sphere, and cylinder.	K.G.2: Correctly name shapes regardless of their orientations or overall size. K.G.3: Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). K.G.4: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other	**K.G.2** Identify and describe a given shape and shapes of objects in everyday situations to include two-dimensional shapes (i.e., triangle, square, rectangle, hexagon, and circle) and three-dimensional shapes (i.e., cone, cube, cylinder, and sphere). **K.G.3** Classify shapes as two-dimensional/flat or three-dimensional/solid and explain the reasoning used. **K.G.4** Analyze and compare two- and three-dimensional shapes of different sizes and orientations using informal

	attributes (e.g., having sides of equal length).	language.
K-4.2 Represent two-dimensional geometric shapes.	K.G.5: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	**K.G.5** Draw two-dimensional shapes (i.e., square, rectangle, triangle, hexagon, and circle) and create models of three-dimensional shapes (i.e., cone, cube, cylinder, and sphere).
K–4.3 Use the positional words near, far, below, above, decide, next to, across from, and between to describe the location of an object. K-4.4 Use the directional words *left* and *right* to describe movement.	K.G.1: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.	**K.G.1** Describe positions of objects by appropriately using terms including *below, above, beside, between, inside, outside, in front of,* or *behind.*
K-5.1 Identify a penny, a nickel, a dime, a quarter, and a dollar and the value of each.		Moved to 1st Grade
K–5.2 Compare the lengths of two objects both directly and indirectly to order objects according to length.	K.MD.2: Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*	**K.MDA.2** Compare objects using terms such as *shorter/longer, shorter/taller,* and *lighter/heavier*.
K–5.3 Use nonstandard units to explore measurement concepts (length and weight).		Moved to 1st Grade
K-5.4 Identify measuring devices used to measure length (rulers, yardsticks, tape measures), weight (scales, balances), time		Moved to 2nd Grade

(calendar, clock – digital and analog), and temperature (thermometer—digital and standard).		
K-5.5 Understand which measure is appropriate for a given situation (length, weight, time, and temperature).	K.MD.1: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	**K.MDA.1** Identify measurable attributes (length, weight) of an object.
K-5.6 Use clocks (analog and digital) to tell time to the hour.	Moved to 1st Grade	Moved to 1st Grade
K-5.7 Use a calendar to identify dates, days of the week, and months of the year.		
K-5.8 Recall equivalencies associated with time (7 days = 1 week and 12 months = 1 year).		
K-6.1 Organize data in graphic displays in the form of drawings and pictures. K-6.2 Interpret data in graphic displays in the form of drawings and pictures.		**K.MDA.4** Represent data using object and picture graphs and draw conclusions from the graphs.
	K.G.6: Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	Moved to 1st Grade
Moved down from 1st Grade; similar to K-2.4 but now students actually add and subtract.	K.OA.2: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to	**K.ATO.2** Solve real-world/story problems using objects and drawings to find sums up to 10 and differences within 10.

	represent the problem.	
Moved down from 1st Grade; similar to K-2.4 but now students actually add and subtract.	K.OA.5: Fluently add and subtract within 5.	**K.ATO.5** Add and subtract fluently within 5.

1st Grade Alignment/Comparison		
2007 SC Academic Standards for Mathematics	***Common Core Standards for Mathematics***	***South Carolina College- and Career-Ready Standards for Mathematics***
1–2.1 Translate between numeral and quantity through 100.	1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	**1.NSBT.1** Extend the number sequence to: a. count forward by ones to 120 starting at any number; b. count by fives and tens to 100, starting at any number; c. read, write and represent numbers to 100 using concrete models, standard form, and equations in expanded form; d. read and write in word form numbers zero through nineteen, and multiples of ten through ninety.
1-2.2 Use estimation to determine the approximate number of objects in a set of 20 to 100 objects.		Moved to Kindergarten for a set of up to ten objects.
1-2.3 Represent quantities in word form through *ten*.	1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	**1.NSBT.1** Extend the number sequence to: a. count forward by ones to 120 starting at any number; b. count by fives and tens to 100, starting at any number; c. read, write and represent numbers to 100 using concrete models, standard form, and equations in expanded form; d. read and write in word form numbers zero through nineteen, and multiples of ten through ninety.

1-2.4 Recognize whole number words that correspond to numerals (through twenty).	1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	**1.NSBT.1** Extend the number sequence to: a. count forward by ones to 120 starting at any number; b. count by fives and tens to 100, starting at any number; c. read, write and represent numbers to 100 using concrete models, standard form, and equations in expanded form; d. read and write in word form numbers zero through nineteen, and multiples of ten through ninety.
1–2.5 Compare whole-number quantities through 100 by using the terms *is greater than, is less than,* and *is equal to.*	1.NBT.3: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	**1.NSBT.3** Compare two two-digit numbers based on the meanings of the tens and ones digits, using the words *greater than, equal to*, or *less than.*
1–2. 6 Recall basic addition facts to 9+9 and corresponding subtraction facts.	1.OA.1: Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (Note: See Glossary, Table 1.)	**1.ATO.6** Demonstrate **a.** addition and subtraction through 20 **b.** fluency with addition and related subtraction facts through 10 **1.ATO.1** Solve real-world/story problems using addition (as a joining action and as a part-part-whole action) and subtraction (as a separation action, finding parts of the whole, and as a comparison) through 20 with unknowns in all positions.
1–2.7 Summarize the inverse relationship between addition and	1.OA.4: Understand subtraction as an unknown-addend problem. *For*	**1.ATO.5** Recognize how counting relates to addition and subtraction.

subtraction.	*example, subtract 10 – 8 by finding the number that makes 10 when added to 8.* 1.NBT.4: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	**1.ATO.4** Understand subtraction as an unknown addend problem.
1-2.8 Generate strategies to add and subtract without regrouping through two-digit numbers.	1.NBT.4: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding	**1.NSBT.4** Add through 99 using concrete models, drawings, and strategies based on place value to: **a.** add a two-digit number and a one-digit number, understanding that sometimes it is necessary to compose a ten (regroup); **b.** add a two-digit number and a multiple of 10. **1.ATO.6** Demonstrate a. addition and subtraction through 20

	two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	b. fluency with addition and related subtraction facts through 10
1-2.9 Analyze the magnitude of digits through 999 on the basis of their place values.	1.NBT.2: Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	**1.NSBT.2** Understand place value through 99 by demonstrating that: **a.** ten ones can be thought of as a bundle (group) called a "ten"; **b.** the tens digit in a two-digit number represents the number of tens and the ones digit represents the number of ones; **c.** two-digit numbers can be decomposed in a variety of ways (e.g., 52 can be decomposed as 5 tens and 2 ones or 4 tens and 12 ones, etc.) and record the decomposition as an equation.

1–3.1 Analyze numeric patterns in addition and subtraction to develop strategies for acquiring basic facts.	1.OA.5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	**1.ATO.5** Recognize how counting relates to addition and subtraction.
1–3.2 Translate patterns into rules for some simple addition and subtraction.	Moved to 3rd Grade	Moved to 3rd Grade
1–3.3 Illustrate the commutative property based on basic facts.	1.OA.3: Apply properties of operations as strategies to add and subtract. (Note: Students need not use formal terms for these properties.) E*xamples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*	**1.ATO.3** Apply Commutative and Associative Properties of Addition to find the sum (through 20) of two or three addends.
1-3.4 Analyze numeric relationships to complete and <u>extend</u> simple patterns.	Moved to 3rd Grade	**1.ATO.9** Create, <u>extend</u> and explain using pictures and words for: a. repeating patterns (e.g., AB, AAB, ABB, and ABC type patterns); b. growing patterns (between 2 and 4 terms/figures).
1-3.5 Classify a number as odd or even.	Moved to 2nd Grade	Moved to 2nd Grade
1-3.6 Classify change over time as quantitative and qualitative.	Moved to 6-8	Moved to 6-8
1-4.1 Identify the three-dimensional	1.G.2: Compose two-dimensional	**1.G.2** Combine two-dimensional shapes

geometric shapes prism, pyramid, and cone.	shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Note: Students do not need to learn formal names such as "right rectangular prism.")	(i.e., square, rectangle, triangle, hexagon, rhombus, and trapezoid) or three-dimensional shapes (i.e., cube, rectangular prism, cone, and cylinder) in more than one way to form a composite shape.
1-4.2 Analyze the two-dimensional shapes circle, square, triangle, and rectangle.	1.G.1: Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.	**1.G.1** Distinguish between a two-dimensional shape's defining (e.g., number of sides) and non-defining attributes (e.g., color). **1.G.4** Identify and name two-dimensional shapes (i.e., square, rectangle, triangle, hexagon, rhombus, trapezoid, and circle).
1–4.3 Classify 2-dimensional shapes as polygons or non-polygons.	While closed shapes are identified as an attribute in 1.G.1 above, the term polygon is not formally introduced until 3rd grade.	While closed shapes are identified as an attribute in 1.G.1 above, the term polygon is not formally introduced until 3rd grade.
1-4.4 Identify a line of symmetry.	Moved to 4th Grade	Moved to 4th Grade
1-4.5 Use the positional and directional terms *north, south, east,* and *west* to describe location and movement.		
1-5.1 Use a counting procedure to determine the value (less than a dollar) of a collection of pennies, nickels, dimes, and	Moved to 2nd Grade	Moved to second Grade.

quarters.		
1-5.2 Represent a nickel, a dime, a quarter, a half-dollar, and a dollar by combinations of coins.	Moved to 2nd Grade	Moved to 2nd Grade
1-5.3 Represent money by using the cent and dollar notations		**1.MDA.6** Identify a penny, nickel, dime and quarter and write the coin values using a ¢ symbol.
1-5.4 Use customary units (whole inches) to measure the length of an object.	Moved to 2nd Grade	Moved to 2nd Grade
1-5.5 Generate common referents for whole inches.	Moved to 2nd Grade	Moved to 2nd Grade
1-5.6 Use common referents to make estimates (whole inches).	Moved to 2nd Grade	Moved to 2nd Grade
1-5.7 Use nonstandard units to measure the weight of objects.	Moved to Kindergarten	Moved to Kindergarten
1-5.8 Use clocks (digital and analog) to tell and record time to the half-hour.	1.MD.3: Tell and write time in hours and half-hours using analog and digital clocks.	**1.MDA.3** Use analog and digital clocks to tell and record time to the hour and half hour.
1-5.9 Illustrate past and future dates on a calendar.		
1-5.10 Represent dates in standard form (June 1, 2007) and numeric form (6-1-2007).		
1-5.11 Use thermometers (Celsius and Fahrenheit) to identify temperatures.		
1-6.1 Use survey questions to collect data. 1-6.2 Organize data in picture graphs,	1.MD.4: Organize, represent, and interpret data with up to three categories; ask and answer	**1.MDA.4** Collect, organize, and represent data with up to 3 categories using object graphs, picture graphs, t-

object graphs, bar graphs, and tables. 1-6.3 Interpret data in picture graphs, object graphs, bar graphs and tables by using the comparative terms more, less, greater, fewer, greater than, and less than.	questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	charts and tallies. **1.MDA.5** Draw conclusions from given object graphs, picture graphs, t-charts, tallies, and bar graphs.
	1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	**1.ATO.2** Solve real-world/story problems that include three whole number addends whose sum is less than or equal to 20.
	1.OA.7: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*	**1.ATO.7** Understand the meaning of the equal sign as a relationship between two quantities (sameness) and determine if equations involving addition and subtraction are true.
Came from 2nd Grade	1.OA.8: Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8+ ? = 11, 5 = ? – 3, 6 + 6 = ?.	**1.ATO.8** Determine the missing number in addition and subtraction equations within 20.

	1.NBT.5: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	**1.NSBT.5** Determine the number that is 10 more or 10 less than a given number through 99 and explain the reasoning verbally and with multiple representations including concrete models.
	1.NBT.6: Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**1.NBST.6** Subtract a multiple of 10 from a larger multiple of 10, both in the range 10 to 90, using concrete models, drawings, and strategies based on place value.
	1.MD.1: Order three objects by length; compare the lengths of two objects indirectly by using a third object.	**1.MDA.1** Order three objects by length using indirect comparison.
	1.MD.2: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or*	**1.MDA.2** Use nonstandard physical models to show the length of an object as the number of same size units of length with no gaps or overlaps.

	overlaps.	
	1.G.3: Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	**1.G.3** Partition two-dimensional shapes (i.e., square, rectangle, circle) into two or four equal parts.

2nd Grade Alignment/Comparison		
2007 SC Academic Standards for Mathematics	***Common Core Standards for Mathematics***	***South Carolina College- and Career-Ready Standards for Mathematics***
2-2.1 Generate estimation strategies to determine the approximate number of objects in a set of at most 1,000 objects.		
2-2.2 Represent quantities in word form (through *twenty*).	2.NBT.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	**2.NSBT.3** Read, write and represent numbers through 999 using concrete models, standard form, and equations in expanded form.
2-2.3 Represent multiples of ten in word form (through *ninety*).	2.NBT.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	**2.NSBT.3** Read, write and represent numbers through 999 using concrete models, standard form, and equations in expanded form.
2-2.4 Compare whole number quantities (through 999) with symbols (<, >, =) and words (*is less than, is greater than, is equal to*).	2.NBT.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	**2.NSBT.4** Compare two numbers with up to three digits using words and symbols (i.e., >, =, or <).
2-2.5 Interpret models of equal grouping (multiplication as repeated addition and arrays.)	2.OA.4: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	**2.ATO.4** Use repeated addition to find the total number of objects arranged in a rectangular array with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
2-2.6 Interpret models of sharing equally (division) as repeated subtraction and arrays.		
2–2.7 Generate strategies to add and	2.NBT.7: Add and subtract within	**2.NSBT.7** Add and subtract through 999

subtract pairs of two-digit whole numbers with regrouping.	1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. 2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.	using concrete models, drawings, and symbols which convey strategies connected to place value understanding. **2.NSBT.6** Add up to four two-digit numbers using strategies based on knowledge of place value and properties of operations.
2–2.8 Generate addition and subtraction strategies to find missing addends and subtrahends in number combinations through 20.	2.OA.1: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, <u>with unknowns in all positions,</u> e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (Note: See Glossary, Table 1.)	**2.ATO.1** Solve one- and two-step real-world/story problems using addition (as a joining action and as a part-part-whole action) and subtraction (as a separation action, finding parts of the whole, and as a comparison) through 99 <u>with unknowns in all positions.</u>
2-2.9 Generate strategies to round numbers through 90 to the nearest 10.	Rounding moved to 3rd Grade	Rounding moved to 3rd Grade

2–2.10 Analyze the magnitude of digits through 9999 on the basis of their place values.	2.NBT.1: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	**2.NSBT.1** Understand place value through 999 by demonstrating that: **a.** 100 can be thought of as a bundle (group) of ten tens called a "hundred"; **b.** the hundreds digit in a three-digit number represents the number of hundreds, the tens digit represents the number of tens, and the ones digit represents the number of ones; **c.** three-digit numbers can be decomposed in multiple ways (e.g., 524 can be decomposed as 5 hundreds, 2 tens and 4 ones or 4 hundreds, 12 tens, and 4 ones, etc.)
2–3.1 Analyze numeric patterns in skip counting that use the numerals 1 through 10.	2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.	**2.NSBT.2** Count by tens and hundreds to 1,000 starting with any number.
2-3.2 Translate patterns into rules for simple multiples.	Moved to 3rd Grade	Moved to 3rd Grade
2-3.3 Analyze relationships to complete and extend growing and repeating patterns involving numbers, symbols and objects.	Skip counting (extending a pattern) is addressed in 1st Grade	Skip counting (extending a pattern) is addressed in 1st Grade
2-3.4 Identify quantitative and qualitative change over time.	Moved to 6-8	Moved to 6-8
2-3.5. Analyze quantitative and qualitative change over time.	Moved to 6-8	Moved to 6-8
2-4.1 Analyze the thee-dimensional shapes spheres, cubes, cylinders, prisms, pyramids, and cones according to the		

number and shape of the faces, edges, corners, and bases of each.		
2-4.2 Identify multiple lines of symmetry.	Moved to 4th Grade	Moved to 4th Grade
2–4.3 Predict the results of combining and subdividing polygons and circles.	2.G.3: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves, thirds, half of, a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	**2.G.3** Partition squares, rectangles and circles into two or four equal parts, and describe the parts using the words *halves, fourths, a half of*, and *a fourth of*. Understand that when partitioning a square, rectangle or circle into two or four equal parts, the parts become smaller as the number of parts increases.
2–5.1 Use accounting procedure to determine the value of a collection of coins and bills.	2.MD.8: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*	**2.MDA.7** Solve real-world/story problems involving dollar bills using the $ symbol or involving quarters, dimes, nickels, and pennies using the ¢ symbol.
2-5.2 Use coins to make change up to one dollar.	2.MD.8: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*	**2.MDA.7** Solve real-world/story problems involving dollar bills using the $ symbol or involving quarters, dimes, nickels, and pennies using the ¢ symbol.
2–5.3 Use appropriate tools to measure objects to the nearest whole unit: measuring length in centimeters, feet, and yards; measuring liquid volume in cops,	2.MD.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and	**2.MDA.1** Select and use appropriate tools (e.g., rulers, yardsticks, meter sticks, measuring tapes) to measure the length of an object.

courts, and gallons; measuring weight in ounces and pounds; and measuring temperature on Celsius and Fahrenheit thermometers.	measuring tapes.	
2–5.4 Generate common measurement referents for feet, yards, and centimeters.	2.MD.3: Estimate lengths using units of inches, feet, centimeters, and meters.	**2.MDA.3** Estimate and measure length/distance in customary units (inch, foot, yard) and metric units (centimeter, meter).
2–5.5 Use common measurement referents to make estimates in feet, yards, and centimeters.	2.MD.3: Estimate lengths using units of inches, feet, centimeters, and meters.	**2.MDA.3** Estimate and measure length/distance in customary units (i.e., inch, foot, yard) and metric units (i.e., centimeter, meter).
2-5.6 Predict whether the measurement will be greater or smaller when different units are used to measure the same object.	2.MD.2: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	**2.MDA.2** Measure the same object or distance using a standard unit of one length and then a standard unit of a different length and explain verbally and in writing how and why the measurements differ.
2–5.7 Use analog and digital clocks to tell and record time to the nearest quarter hour and to the nearest five-minute interval.	2.MD.7: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	**2.MDA.6** Use analog and digital clocks to tell and record time to the nearest five-minute interval using *a.m.* and *p.m.*
2–5.8 Match a.m. and p.m. to familiar situations.		
2-5.9 Recall equivalencies associated with <u>length</u> (12 inches = 1 foot, 3 feet = 1 yard) and <u>time</u> (60 minutes = 1 hour, 24 hours = 1 day).		

2-6.1 Create survey questions to collect data.		**2.MDA.9** Collect, organize, and represent data with up to four categories using picture graphs and bar graphs with a single-unit scale.
2–6.2 Organize data in charts, pictographs, and tables.	2.MD.9: Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. 2.MD.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph. (Note: See Glossary, Table 1.)	**2.MDA.8** Generate data by measuring objects in whole-unit lengths and organize the data in a line plot using a horizontal scale marked in whole number units. **2.MDA.9** Collect, organize, and represent data with up to four categories using picture graphs and bar graphs with a single-unit scale.
2-6.3 Infer trends in a data set as increasing, decreasing, or random.	Moved to 6-8	Moved to 6-8
2-6.4 Predict on the basis of data whether events are *more likely* or *less likely to occur*.	Moved to 6-8	Moved to 6-8
Was previously "Generate Strategies" now fluency is required.	2.OA.2: Fluently add and subtract within 20 using mental strategies. (Note: See standard 1.OA.6 for a list of mental strategies). By end of	**2.ATO.2** Demonstrate fluency with addition and related subtraction facts through 20.

	Grade 2, know from memory all sums of two one-digit numbers.	
Moved up from 1st Grade	2.OA.3: Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	**2.ATO.3** Determine whether a number through 20 is odd or even using pairings of objects, counting by twos, or finding two equal addends to represent the number (e.g., 3 + 3 = 6).
	2.NBT.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	**2.NSBT.5** Add and subtract fluently through 99 using knowledge of place value and properties of operations.
	2.NBT.8: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 -100 from a given number 100-900.	**2.NSBT.8** Determine the number that is 10 or 100 more or less than a given number through 1,000 and explain the reasoning verbally and in writing.
	2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations. (Note: Explanations may be supported by drawings or objects.)	
	2.MD.4: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	**2.MDA.4** Measure to determine how much longer one object is than another, using standard length units.
	2.MD.5: Use addition and	

	subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	
	2.MD.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, . . ., and represent whole-number sums and differences within 100 on a number line diagram.	**2.MDA.5** Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences through 99 on a number line diagram.
		2.MDA.10 Draw conclusions from t-charts, object graphs, picture graphs, and bar graphs.
	2.G.1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (Note: Sizes are compared directly or visually, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	**2.G.1** Identify triangles, quadrilaterals, hexagons, and cubes. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.
	2.G.2: Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	**2.G.2** Partition a rectangle into rows and columns of same-size squares to form an array and count to find the total number of parts.

3rd Grade Alignment/Comparison		
2007 SC Academic Standards for Mathematics	***Common Core Standards for Mathematics***	***South Carolina College- and Career-Ready Standards for Mathematics***
3-2.1 Compare whole number quantities (through 999,999) with symbols (<, >, =) and words (*is less than, is greater than, is equal to*).		**3.NSBT.5** Compare and order numbers through 999,999 and represent the comparison using the symbols >, =, or <.
3-2.2 Represent whole numbers in word form. (through 999,000)		**3.NSBT.4** Read and write numbers through 999,999 in standard form and equations in expanded form.
3–2.3 Apply an algorithm to add and subtract whole numbers fluently.	3.NBT.2: Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**3.NSBT.2** Add and subtract whole numbers fluently to 1,000 using knowledge of place value and properties of operations.
3–2.4 Apply procedures to round any whole number to the nearest 10, 100, or 1000.	3.NBT.1: Use place value understanding to round whole numbers to the nearest 10 or 100.	**3.NSBT.1** Use place value understanding to round whole numbers to the nearest 10 or 100.
3–2.5 Understand fractions as parts of a whole.	3.NF.1: Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.	**3.NSF.1** Develop an understanding of fractions (i.e., denominators limited to 2, 3, 4, 6, 8, 10) as numbers. **a.** A fraction *1/b* (called a unit fraction) is the quantity formed by one part when a whole is partitioned into *b* equal parts; **b.** A fraction *a/b* is the quantity formed by *a* parts of size *1/b*; **c.** A fraction is a number that can be represented on a number line based on counts of a unit fraction;

		d. A fraction can be represented using set, area, and linear models.
3–2.6 Represent fractions that are greater than or equal to 1.	3.NF.2: Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line. b. Represent a fraction *a*/*b* on a number line diagram by marking off *a* lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.	**3.NSF.2** Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that: a. two fractions are equal if they are the same size, based on the same whole, or at the same point on a number line; b. fraction equivalence can be represented using set, area, and linear models; c. Whole numbers can be written as fractions (e.g., $4 = \frac{4}{1}$ and $1 = \frac{4}{4}$); d. fractions with the same numerator or same denominator can be compared by reasoning about their size based on the same whole. **3.NSF.3** Develop an understanding of mixed numbers (i.e., denominators limited to 2, 3, 4, 6, 8, 10) as iterations of unit fractions on a number line.
3–2.7 Recall basic multiplication facts through 12 x 12 and the corresponding division facts.	3.OA.7: Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	**3.ATO.7** Demonstrate fluency with basic multiplication and related division facts of products and dividends through 100.

3–2.8 Compare the inverse relationship between multiplication and division.	3.OA.6: Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	**3.ATO.6** Understand division as a missing factor problem.
3–2.9 Analyze the effect that adding, subtracting, or multiplying odd and/or even numbers has on the outcome.	3:OA.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*	**3.ATO.9** Identify a rule for an arithmetic pattern (e.g., patterns in the addition table or multiplication table).
3-2.10 Generate strategies to multiply and divide whole numbers by using one single-digit factor and one multi-digit factor.	3.OA.2: Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.* 3.OA.5: Apply properties of operations as strategies to multiply and divide. (Note: Students need not use formal terms for these properties.) *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also*	**3.ATO.1** Use concrete objects, drawings and symbols to represent multiplication facts of two single-digit whole numbers and explain the relationship between the factors (i.e., 0-10) and the product. **3.ATO.2** Use concrete objects, drawings and symbols to represent division without remainders and explain the relationship among the whole-number quotient (i.e., 0-10), divisor (i.e., 1-10), and dividend. **3.ATO.5** Apply properties of operations (i.e., Commutative Property of Multiplication, Associative Property of Multiplication, Distributive Property) as strategies to multiply and divide and explain the reasoning.

	known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)	
3–2.11 Use basic number combinations to compute related multiplication problems that involve multiples of 10.	3.NBT.3: Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	**3.NSBT.3** Multiply one-digit whole numbers by multiples of 10 in the range 10-90, using knowledge of place value and properties of operations.
3-2.12 Analyze the magnitude of digits through 999,999 on the basis of their place value.		**3.NSBT.5** Compare and order numbers through 999,999 and represent the comparison using the symbols >, =, or <.
3-3.1 Create numeric patterns that involve whole-number operations.	3:OA.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*	**3.ATO.9** Identify a rule for an arithmetic pattern (e.g., patterns in the addition table or multiplication table).
3-3.2 Apply procedures to find missing numbers in numeric patterns that involve whole-number operations.	3.OA.4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example,*	**3.ATO.4** Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is a missing factor,

	determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.	product, dividend, divisor, or quotient.
3–3.3 Use symbols to represent an unknown quantity in a simple addition, subtraction, or multiplication equation.	3.OA.8: Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. (Note: This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order -- Order of Operations.)	**3.ATO.8** Solve two-step real-world problems using addition, subtraction, multiplication and division of whole numbers and having whole number answers. Represent these problems using equations with a letter for the unknown quantity.
3-3.4 Illustrate situations that show change over time as increasing.	Moved to 6-8	Moved to 6-8
3-4.1 Identify the specific attributes of circles: center, radius, circumference, and diameter.	Moved to 6-8 with a higher degree of expectation other than simply identify.	Moved to 6-8 with a higher degree of expectation other than simply identify.
3-4.2 Classify polygons as either triangles, quadrilaterals, pentagons, hexagons, or octagons according to the number of their sides.	3.G.1: Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared	**3.G.1** Understand that shapes in different categories (e.g., rhombus, rectangle, square, and other 4-sided shapes) may share attributes (e.g., 4-sided figures) and the shared attributes can define a larger

	attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	category (e.g., quadrilateral). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
3-4.3 Classify lines and line segments as either parallel, perpendicular, or intersecting.	Moved to 4th Grade	Moved to 4th Grade
3-4.4 Classify angles as either right, acute, or obtuse.		**3.G.3** Use a right angle as a benchmark to identify and sketch acute and obtuse angles.
3-4.5 Classify triangles by lengths of side (scalene, isosceles, equilateral) and by sizes of angles. (acute, obtuse, right)		
3-4.6 Exemplify points, lines, line segments, rays, angles.	Moved to 4th Grade	Moved to 4th Grade
3–4.7 Analyze the results of combining and subdividing circles, triangles, quadrilateral's, pentagons, hexagons, and octagons.	3.G.2: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	**3.G.2** Partition two-dimensional shapes into 2, 3, 4, 6, or 8 parts with equal areas and express the area of each part using the same unit fraction. Recognize that equal parts of identical wholes need not have the same shape.
3-4.8 Predict the results of one transformation (slide, flip, turn) of a geometric shape.	Moved to 6-8	Moved to 6-8
3-5.1 Use the fewest possible number of coins when making change.		

3–5.2 Use appropriate tools to measure objects to the nearest unit: measuring length in meters and half inches; measuring liquid volume in fluid ounces, pints, and liters; and measuring mass in grams.	3.MD.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Note: Excludes compound units such as cm3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Note: Excludes multiplicative comparison problems -- problems involving notions of "times as much"; see Glossary, Table 2.)	**3.MDA.2** Estimate and measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (i.e., mL, L) to the nearest whole unit.
3–5.3 Recognize the relationship between meters and yards, kilometers and miles, liters and quarts, and kilograms and pounds.		
3–5.4 Use and reference to make comparisons and estimates associated with length, liquid volume, and mass and weight: meters compared to yards, kilometers to miles, liters to quarts, and kilograms to pounds.	3.MD.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Note: Excludes compound units such as cm3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that	**3.MDA.2** Estimate and measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (i.e., mL, L) to the nearest whole unit.

	are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Note: Excludes multiplicative comparison problems -- problems involving notions of "times as much"; see Glossary, Table 2.)	
3–5.5 Generate strategies to determine the perimeters of polygons.	3.MD.8: Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**3.MDA.6** Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
3–5.6 Use analog and digital clocks to tell time to the nearest minute.	3.MD.1: Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	**3.MDA.1** Use analog and digital clocks to determine and record time to the nearest minute, using *a.m.* and *p.m.*; measure time intervals in minutes; and solve problems involving addition and subtraction of time intervals within 60 minutes.
3-5.7 Recall equivalencies associated with length (36 inches = 1 yard) and time (60 seconds = 1 minute).		
3-6.1 Apply a procedure to find the range of a data set.	Moved to 6-8	Moved to 6-8

3–6.2 Organize data in tables, bar graphs, and dot plots. 3–6.3 Interpret data in tables, bar graphs, pictographs, and dot plots. 3–6.4 Analyze dot plots and bar graphs to make predictions about populations.	3.MD.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	**3.MDA.3** Collect, organize, classify, and interpret data with multiple categories and draw a scaled picture graph and a scaled bar graph to represent the data.
3-6.5 Compare the benefits of multiple representations of a given data set. (tabular, dot plot, bar graph)	Moved to 6-8	Moved to 6-8
3-6.6 Predict based on data if events are likely, unlikely, certain, or impossible.	Moved to 6-8	Moved to 6-8
3-6.7 Understand when the probability of an event is 0 or 1.	Moved to 6-8	Moved to 6-8
	3.OA.1: Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5×7.*	
	3.OA.3: Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with	**3.ATO.3** Solve real-world problems involving equal groups, area/array, and number line models using basic multiplication and related division facts. Represent the problem situation using an equation with a symbol for the unknown.

	a symbol for the unknown number to represent the problem. (Note: See Glossary, Table 2.)	
Moved down from 4th Grade	3.NF.3: Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**3.NSF.2** Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that: a. two fractions are equal if they are the same size, based on the same whole, or at the same point on a number line; b. fraction equivalence can be represented using set, area, and linear models; c. whole numbers can be written as fractions (e.g., $4 = \frac{4}{1}$ and $1 = \frac{4}{4}$); d. fractions with the same numerator or same denominator can be compared by reasoning about their size based on the same whole.

	3.MD.4: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	**3.MDA.4** Generate data by measuring length to the nearest inch, half-inch and quarter-inch and organize the data in a line plot using a horizontal scale marked off in appropriate units.
	3.MD.5: Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.	**3.MDA.5** Understand the concept of area measurement. a. Recognize area as an attribute of plane figures; b. Measure area by building arrays and counting standard unit squares; c. Determine the area of a rectilinear polygon and relate to multiplication and addition.
Moved down from 4th Grade	3.MD.6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	**3.MDA.5** Understand the concept of area measurement. a. Recognize area as an attribute of plane figures; b. Measure area by building arrays and counting standard unit squares; c. Determine the area of a rectilinear polygon and relate to multiplication and addition.
	3.MD.7: Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with	**3.MDA.5** Understand the concept of area measurement. a. Recognize area as an attribute of plane figures;

	whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	b. Measure area by building arrays and counting standard unit squares; c. Determine the area of a rectilinear polygon and relate to multiplication and addition.
Moved down from 4th Grade		**3.G.4** Identify a three-dimensional shape (i.e., right rectangular prism, right triangular prism, pyramid) based on a given two-dimensional net and explain the relationship between the shape and the net.

4th Grade Alignment/Comparison		
2007 SC Academic Standards for Mathematics	***Common Core Standards for Mathematics***	***South Carolina College- and Career-Ready Standards for Mathematics***
4-2.1 Recognize the period in the place-value structure of whole numbers: units, thousands, millions, and billions.	4.NBT.2: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**4.NSBT.2** Recognize math periods and number patterns within each period to read and write in standard form large numbers through 999,999,999.
4-2.2 Apply divisibility rules for 2, 5, and 10.		
4–2.3 Apply an algorithm to multiply whole numbers fluently.	4.NBT.5: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**4.NSBT.5** Multiply up to a four-digit number by a one-digit number and multiply a two-digit number by a two-digit number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using rectangular arrays, area models and/or equations.
4-2.4 Explain the effect on the product when one of the factors is changed.	4.OA.1: Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	**4.ATO.1** Interpret a multiplication equation as a comparison (e.g., interpret 35 = 5x7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.) Represent verbal statements of multiplicative comparisons as multiplication equations.

4-2.5 Generate strategies to divide whole numbers by single-digit divisors.	4.NBT.6: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**4.NSBT.6** Divide up to a four-digit dividend by a one-digit divisor using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.
4-2.6 Analyze the magnitude of digits through hundredths on the basis of their place value. 4–2.7 Compare decimals to hundredths by using the terms *less than, is greater than,* and *is equal to* and the symbols.	4.NF.7: Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	**4.NSF.7** Compare and order decimal numbers to hundredths, and justify using concrete and visual models

4-2.8 Apply strategies and procedures to find equivalent forms of fractions.	4.NF.1: Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *b*) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. 4.NF.5: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.* (Note: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)	**4.NSF.1** Explain why a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100), *a/b,* is equivalent to a fraction, *(nxa)/(nxb)*, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **4.NSF.5** Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use this technique to add two fractions with respective denominators of 10 and 100.
4–2.9 Compare the relative size of fractions to the benchmarks 0, 1/2, and 1.	4.NF.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a	**4.NSF.2** Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such

	benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	as 1/2 and represent the comparison using the symbols >, <, or =.
4–2.10 Identify the common fraction/decimal equivalents 1/2 = .5, 1/4 = .25, 3/4 = .75, 1/3 .33, 2/3 .67, multiples of 1/10, and multiples of 1/100. 4–2.11 Represent improper fractions, mixed numbers, and decimals	4.NF.5: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.* (Note: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.) 4.NF.6: Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*	**4.NSF.6** Write a fraction with a denominator of 10 or 100 using decimal notation, and read and write a decimal number as a fraction.
4–2.11 Represent improper fractions, mixed numbers, and decimals.	4.NF.3: Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*. a. Understand addition and	

	subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	
4-2.12 Generate strategies to add and subtract decimals through hundredths.	Moved to 5th Grade	Moved to 5th Grade
4–3.1 Analyze numeric, nonnumeric, and repeating patterns involving all operations and decibel patterns through hundreds. 4–3.2 Generalize a rule for numeric, nonnumeric, and repeating patterns	4.OA.5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting*	**4.ATO.5** Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.

involving all operations. 4–3.3 Use a rule to complete a sequence or a table.	*number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	
4–3.4 Translate among letters, symbols, and words to represent quantities in simple mathematical expressions or equations.	4.OA.3: Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**4.ATO.3** Solve multi-step real-world problems using the four operations. Represent the problem using an equation with a variable as the unknown quantity.
4–3.5 Apply procedures to find the value of an unknown letter or symbol in a whole-number equation.	4.OA.2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. (Note: See Glossary, Table 2.)	**4.ATO.2** Solve real-world problems using multiplication (product unknown) and division (group size unknown, number of groups unknown).
4-3.6 Illustrate situations that show change over time as either increasing, decreasing, or varying.	Moved to 6-8	Moved to 6-8

4-4.1 Analyze the quadrilaterals squares, rectangles, trapezoids, rhombuses, and parallelograms according to their properties.	4.G.2: Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	**4.G.2** Classify quadrilaterals based on the presence or absence of parallel or perpendicular lines. **4.G.3** Recognize right triangles as a category, and identify right triangles.
4-4.2 Analyze the relationship between three-dimensional geometric shapes (cubes, rectangular prisms, cylinders) and their two-dimensional nets.	Moved to 3rd Grade	Moved to 3rd Grade
4-4.3 Predict the results of multiple transformations (translation, reflection, rotation) of the same type on a two-dimensional geometric shape.	Moved to 6-8	Moved to 6-8
4-4.4 Represent two-dimensional shapes (trapezoid, rhombus, parallelogram) and three-dimensional shapes (cube, rectangular prism, cylinder).		
4-4.5 Use transformation(s) to prove congruency.	Moved to 6-8	Moved to 6-8
4-4.6 Represent points, line segments, rays, angles, and polygons.	4.G.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**4.G.1** Draw points, lines, line segments, rays, angles (i.e., right, acute, obtuse), and parallel and perpendicular lines. Identify these in two-dimensional figures.
4-4.7 Represent the location of points in	Moved to 5th Grade	Moved to 5th Grade

the first quadrant of a coordinate grid with ordered pairs of whole numbers.		
4-4.8 Illustrate possible paths from one point to another along vertical and horizontal grid lines in the first quadrant of the coordinate plane.		
4-5.1 Use appropriate tools and units to measure objects to the nearest unit: length (one-fourth inch, centimeter, millimeter), weight (milligram, pound, kilogram), and liquid volume (cup, quart, liter).	Moved to 3rd Grade	Moved to 3rd Grade
4–5.2 Compare angle measurements with reference angles of 45°, 90°, and 180° to estimate angle measures.	4.MD.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	**4.MDA.5** Understand the relationship of an angle measurement to a circle.
4–5.3 Use equivalencies to convert units of measure within the same units. Customary	4.MD.1: Know relative sizes of measurement units within one	**4.MDA.1** Convert measurements within a single system of measurement,

System: converting lengths in inches, feet, yards, and Miles; converting weight in ounces, pounds, and tons; converting liquid volume in cups, pints, quarts, and gallons; and converting time in years, months, weeks, days, hours, minutes, and seconds.	system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.
4-5.4 Analyze the perimeter of a polygon. 4-5.5 Generate strategies to determine the area of rectangles and triangles.	4.MD.3: Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	**4.MDA.3** Apply the area and perimeter formulas for rectangles.
4–5.6 Apply strategies and procedures to determine the amount of elapsed time in hours and minutes within a 12-hour period, either a.m. or p.m.	4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement	**4.MDA.2** Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations.

	quantities using diagrams such as number line diagrams that feature a measurement scale.	
4-5.7 Use a Celsius and Fahrenheit thermometer to determine temperature changes during time intervals.		
4–5.8 Recall equivalencies associated with liquid volume, time, weight, and length: 8 liquid ounces = 1 cup, 2 cups = 1 pint, 2 pints = 1 quart, 4 quarts = 1 gallon; 365 days = 1 year, 52 weeks = 1 year; 16 ounces = 1 pound, 2000 pounds = 1 con; and 5280 feet = 1 mile.	4.MD.1: Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	
4-5.9 Exemplify situations in which highly accurate measurements are required.		
4-6.1 Compare how data-collection methods impact survey results.		
4-6.2 Interpret data in graphical displays with scale increments greater than or equal to one (tables, line graphs, bar graphs, double bar graphs).	Increments of 1 addressed in 2nd Grade; greater than 1 in 3rd Grade	Increments of 1 addressed in 2nd Grade; greater than 1 in 3rd Grade

4-6.3 Organize data in tables, line graphs, and bar graphs whose scale increments are greater than or equal to 1.	4.MD.4: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	**4.MDA.4** Create a line plot to display a data set (i.e., generated by measuring length to the nearest quarter-inch and eighth-inch) and interpret the line plot.
4-6.4 Distinguish between categorical and numerical data.		
4-6.5 Match categorical and numerical data to appropriate graphs.		
4-6.6 Predict based on data if events are *likely, unlikely, certain, impossible,* or *equally likely.*	Moved to 6-8	Moved to 6-8
4-6.7 Analyze possible outcomes of a simple event.	Moved to 6-8	Moved to 6-8
Came from 5th Grade	4.OA.4: Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given	**4.ATO.4** Recognize that a whole number is a multiple of each of its factors. Find all factors for a whole number in the range 1-100 and determine whether the whole number is prime or composite.

	whole number in the range 1–100 is prime or composite.	
	4.NBT.1: Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	**4.NSBT.1** Understand that, in a multi-digit whole number, a digit represents ten times what the same digit represents in the place to its right.
	4.NBT.3: Use place value understanding to round multi-digit whole numbers to any place.	**4.NSBT.3** Use rounding as one form of estimation and round whole numbers to any given place value.
	4.NBT.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.	**4.NSBT.4** Fluently add and subtract multi-digit whole numbers using strategies to include a standard algorithm.
Moved down from 5th Grade		**4.NSF.3** Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions. a. Compose and decompose a fraction in more than one way, recording each composition and decomposition as an addition or subtraction equation; b. Add and subtract mixed numbers with like denominators; c. Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having like denominators.
Moved down from 6th Grade	4.NF.4: Apply and extend previous understandings of multiplication to	**4.NSF.4** Apply and extend an understanding of multiplication by

	multiply a fraction by a whole number. a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*	multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100). **a.** Understand a fraction *a/b* as a multiple of 1/*b*. **b.** Understand a multiple of *a/b* as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. **c.** Solve real-world problems involving multiplication of a fraction by a whole number, (i.e., use visual fraction models and equations to represent the problem).
Moved down from 5th Grade	4.MD.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	**4.MDA.6** Measure and draw angles in whole number degrees using a protractor.
	4.MD.7: Recognize angle measure as additive. When an angle is	**4.MDA.7** Solve addition and subtraction problems to find unknown angles in real-

	decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	world and mathematical problems.
Moved up from 2nd Grade		**4.MDA.8** Determine the value of a collection of coins and bills greater than $1.00.
Moved up from 2nd Grade with more depth and down from 5th Grade	4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	**4.G.4** Recognize a line of symmetry for a two –dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

5th Grade Alignment/Comparison		
2007 SC Academic Standards for Mathematics	***Common Core Standards for Mathematics***	***South Carolina College- and Career-Ready Standards for Mathematics***
5–2.1 Analyze the magnitude of the digit on the basis of its place value, using whole numbers and decimal numbers through thousandths.	5.NBT.l: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	**5.NSBT.1** Understand that, in a multi-digit whole number, a digit in one place represents 10 times what the same digit represents in the place to its right, and represents 1/10 times what the same digit represents in the place to its left.
5-2.2 Apply an algorithm to divide whole numbers fluently.	5.NBT.6: Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**5.NSBT.6** Divide up to a four-digit dividend by a two-digit divisor, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.
5-2.3 Understand the relationship among the divisor, dividend, and quotient.	Moved to 3rd Grade	Moved to 3rd Grade
5–2.4 Compare whole number, decimals, and fractions by using the symbols <, >, and =.	5.NBT.3: Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of	**5.NSBT.3** Read and write decimals in standard and expanded form. Compare two decimal numbers to the thousandths using >, =, or <.

	the digits in each place, using >, =, and < symbols to record the results of comparisons.	
5-2.5 Apply an algorithm to add and subtract decimals. (through thousandths).	5.NBT.7: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**5.NSBT.7** Add, subtract, multiply, and divide decimal numbers to hundredths using concrete area models or drawings.
5-2.6 Classify numbers as prime or composite.	Moved to 6-8	Moved to 6-8
5-2.7 Generate strategies to find the greatest common factor and least common multiple of two whole numbers.	While not a standalone standard, the content is addressed with addition of fractions in the standard below. This is specifically addressed in 6-8.	While not a standalone standard, the content is addressed with addition of fractions in the standard below. This is specifically addressed in 6-8.
5-2.8 Generate strategies to add and subtract fractions with like and unlike denominators.	5.NF.1: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)* 5.NF.2: Solve word problems involving addition and subtraction	**5.NSF.1** Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including the area model and number line. **5.NSF.2** Solve real-world problems involving addition and subtraction of fractions with unlike denominators.

	of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*	
5.2-9 Apply divisibility rules for 3, 6, and 9.		
5–3.1 Represent numeric, algebraic, and geometric patterns in words, symbols, algebraic expressions, and algebraic equations.	5.OA.3: Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*	**5.ATO.3** Investigate the relationship between two numerical patterns. a. Generate two numerical patterns given two rules and organize in tables; b. Translate the two numerical patterns into two sets of ordered pairs; c. Graph the two sets of ordered pairs on the same coordinate plane; d. Identify the relationship between the two numerical patterns.

5-3.2 Analyze patterns and functions with words, tables, and graphs.	Moved to 6-8	Moved to 6-8
5–3.3 Match tables, graphs, expressions, equations, and verbal descriptions of the same problems situation.	5.OA.2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*	**5.ATO.2** Translate verbal phrases into numerical expressions and interpret numerical expressions as verbal phrases.
5-3.4 Identify applications of commutative, associative, and distributive properties with whole numbers.		Addressed in 2^{nd} – 5^{th} Grades
5-3.5 Analyze situations that show change over time.		
5–4.1 Apply the relationships of quadrilaterals to make logical arguments about their properties.	5.G.3: Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.* 5.G.4: Classify two-dimensional figures in a hierarchy based on properties.	**5.G.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. **5.G.4** Classify two-dimensional figures in a hierarchy based on their attributes.

5-4.2 Compare attributes (angles, side lengths, perimeter) of congruent shapes.	Attributes are addressed in lower grades but congruent shapes are introduced in 6-8.	Attributes are addressed in lower grades but congruent shapes are introduced in 6-8.
5-4.3 Classify shapes as congruent.	Moved to 6-8	Moved to 6-8
5-4.4 Translate between two-dimensional representations and three-dimensional objects.	Nets moved to 3rd Grade	Nets moved to 3rd Grade
5-4.5 Predict the results of combined multiple transformations (translation, reflection, rotation) on a geometric shape.	Moved to 6-8	Moved to 6-8
5-4.6 Analyze shapes to determine line symmetry and/or rotational symmetry.	Moved to 4th Grade	Moved to 4th Grade
5-5.1 Use appropriate tools and units to measure objects to the precision of one-eighth inch.		
5-5.2 Use a protractor to measure angles from 0 to 180 degrees.	Moved to 4th Grade	Moved to 4th Grade

5–5.3 Use equivalencies to convert units of measure within the metric system: converting length in millimeters, centimeters, meters, and kilometers; converting liquid volume in milliliters, centiliters, leaders, and kiloliters; and converting mass in milligrams, centigrams, grams, and kilograms.	5.MD.1: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	**5.MDA.1** Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.
5-5.4 Apply formulas to determine the perimeter and area of a shape (triangles, rectangles, parallelograms)	Moved to 4th Grade	Moved to 4th Grade
5–5.5 Apply strategies and formulas to determine the volume of rectangular prisms.	5.MD.3: Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units. 5.MD.4: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. 5.MD.5: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving	**5.MDA.3** Understand the concept of volume measurement. **a.** Recognize volume as an attribute of right rectangular prisms; **b.** Relate volume measurement to the operations of multiplication and addition by packing right rectangular prisms and then counting the layers of standard unit cubes; **c.** Determine the volume of right rectangular prisms using the formula derived from packing right rectangular prisms and counting the layers of standard unit cubes.

	volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	
5-5.6 Apply procedures to determine the amount of elapsed time in hours, minutes, and seconds within a 24-hour period (a.m. and p.m.).		Moved to 4th Grade for 12-hour period
5-5.7 Understand the relationship between the Celsius and Fahrenheit temperature		

scales.		
5-5.8 Recall equivalencies associated with length (10 millimeters = 1 centimeter, 100 centimeters = 1 meter, 1000 meters = 1 kilometer), liquid volume (10 milliliters = 1 centiliter, 100 centiliters = 1 liter, 1000 liters = 1 kiloliter), weight (10 milligrams = 1 centigram, 100 centigrams = 1 gram, 1000 grams = 1 kilogram).		
5-6.1 Design an investigation to address a question.		
5-6.2 Analyze how data collection methods affect the nature of the data set.	Moved to 6-8	Moved to 6-8
5-6.3 Apply procedures to calculate the measures of center (mean, median, mode).	Moved to 6-8	Moved to 6-8
5-6.4 Interpret the meaning and application of the measures of center.	Moved to 6-8	Moved to 6-8
5-6.5 Represent the probability of a single stage event in words and fractions.	Moved to 6-8	Moved to 6-8
5-6.6 Conclude why the sum of the probabilities of the outcomes of an experiment must equal 1.	Moved to 6-8	Moved to 6-8
	5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	**5.ATO.1** Evaluate numerical expressions involving grouping symbols (i.e. parentheses, brackets, braces).

	5.NBT.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	**5.NSBT.2** Using whole number exponents explain: a. patterns in the number of zeroes of the product when multiplying a number by powers of 10; b. patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.
	5.NBT.4: Use place value understanding to round decimals to any place.	**5.NSBT.4** Round decimals to any given place value within thousandths.
	5.NBT.5: Fluently multiply multi-digit whole numbers using the standard algorithm.	**5.NSBT.5** Fluently multiply multi-digit whole numbers using strategies to include a standard algorithm.
Moved down from 6-8	5.NF.3: Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many*	**5.NSF.3** Understand the relationship between fractions and division of whole numbers by interpreting a fraction as the numerator divided by the denominator (i.e., $\frac{a}{b} = a \div b$).

	pounds of rice should each person get? Between what two whole numbers does your answer lie?	
Moved down from 6-8	5.NF.4: Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show* $(2/3) \times 4 = 8/3$, *and create a story context for this equation. Do the same with* $(2/3) \times (4/5) = 8/15$. *(In general,* $(a/b) \times (c/d) = ac/bd$.*)* b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	**5.NSF.4** Extend the concept of multiplication to multiply a fraction or whole number by a fraction. **a.** Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths. **b.** Interpret multiplication of a fraction by a whole number and a whole number by a fraction and compute the product; **c.** Interpret multiplication in which both factors are fractions less than one and compute the product.
Moved down from 6-8	5.NF.5: Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated	**5.NSF.5** Justify the reasonableness of a product when multiplying with fractions. **a.** Estimate the size of the product based on the size of the two factors; **b.** Explain why multiplying a given number by a number greater than 1

	multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n×a)/(n×b) to the effect of multiplying a/b by 1.	(e.g., improper fractions, mixed numbers, whole numbers) results in a product larger than the given number; **c.** Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; **d.** Explain why multiplying the numerator and denominator by the same number has the same effect as multiplying the fraction by 1.
Moved down from 6-8	5.NF.6: Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	**5.NSF.6** Solve real-world problems involving multiplication of a fraction by a fraction or a mixed number.
Moved down from 6-8	5.NF.7: Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (Note: Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.) a. Interpret division of a unit fraction by a non-zero whole	**5.NSF.7** Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. a. Interpret division of a unit fraction by a non-zero whole number and compute the quotient; b. Interpret division of a whole number by a unit fraction and compute the quotient. **5.NSF.8** Solve real-world problems involving division of unit fractions and whole numbers by using visual fraction

	number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3. b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4. c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?	models and equations.
	5.MD.2: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different*	**5.MDA.2** Create a line plot consisting of unit fractions and use operations on fractions to solve problems related to the line plot.

	measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	
Moved down from 6-8	5.G.1: Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	**5.G.1** Define a coordinate system. a. The *x*- and *y*- axes are perpendicular number lines that intersect at 0 (the origin); b. Any point on the coordinate plane can be represented by its coordinates; c. The first number in an ordered pair is the *x*-coordinate and represents the horizontal distance from the origin; d. The second number in an ordered pair is the *y*-coordinate and represents the vertical distance from the origin.
Moved down from 6-8	5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	**5.G.2** Plot and interpret points in the first quadrant of the coordinate plane to represent real-world and mathematical situations.
		5.MDA.4 Differentiate among perimeter, area and volume and identify which application is appropriate for a given situation.