Category	Objectives	Standards
Whole Number Computation and Numerical Expressions	1. Use estimation to judge the reasonableness of whole number computations. 2. Multiply multi-digit numbers fluently using the standard algorithm. 3. 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. Justify using models. 4. Write an equation to represent a division problem. 5. Mentally multiply or divide by 10. Explain patterns. 6. Use whole-number exponents to denote powers of 10. 7. Identify the distributive property of multiplication over addition using physical models. 8. Apply rules (conventions) for order of operations of whole numbers where left to right computations are modified by the use of parentheses, brackets or braces. 9. Evaluate simple numerical expressions. 10. Write and interpret (explain) numerical expressions (without evaluating them).	CC.5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm. CC.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. CC.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. CC.5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. CC.5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

Category	Objectives	Standards
Algebraic Relationships	1. Solve problems by finding the next term in a pattern or function table given the rule using real world situations. 2. Solve problems by finding the missing term in a pattern or function table given the rule using real world situations. 3. Interpret and write a rule for a one-operation function table. 4. Compare graphs and function tables produced from different rules. 5. Form ordered pairs from a function table and graph them on a coordinate plane in Quadrant I. 6. Use geometric vocabulary (x-axis, x-coordinate, y-axis, y-coordinate and ordered pairs) to describe the location and plot points in Quadrant I. 7. Represent problems by graphing points in the first quadrant of the coordinate plane. 8. Construct and interpret line graphs formed by plotting ordered pairs in the coordinate plane if the context makes it appropriate to connect the points.	CC.5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. CC.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. CC.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). CC.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.

Category	Objectives	Standards
Distance	1. Draw and measure distance to the 1/8 inch accurately and use data to create line plots. 2. Draw and measure distance to the nearest cm accurately and use data to create line plots.	CC.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.
	3. Make conversions within the customary measurement system in real world problems involving distance. 4. Make conversions within the metric system in real world problem involving distance. 5. Solve multi-step, real world problems involving distance conversions.	CC.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.
Polygons	1. Identify polygons and non-polygons. 2. Identify and model regular and irregular polygons. 3. Classify polygons based on a hierarchy of properties. 4. Classify quadrilaterals. 5. Classify triangles.	CC.5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. CC.5.G.4 Classify two-dimensional figures in a hierarchy based on properties.

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Category	Objectives	Standards

Volume	1. Find the volume of a cube, rectangular prism, or other object made of cubes by counting unit cubes, including the appropriate unit.	CC.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.
		
		CC.5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

	2. Find the volume of a rectangular prism by multiplying its three edge lengths to solve problems, including the appropriate unit.
	3. Find the volume of a rectangular prism by multiplying the area of its base by its height to solve problems, including the appropriate unit.
	4. Represent threefold whole number products as volumes.
	
	5. Use formulas for volume to solve real world and mathematical problems.
	
	6. Find volumes of solid figures composed of two non-overlapping rectangular prisms by adding the volumes of the parts to solve problems, including the appropriate unit.
		CC.5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving 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.

Category	Objectives	Standards
Area	1. Find the area of a rectangle with fractional side lengths and justify with visual models.	CC.5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 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.
Capacity (Liquid Volume)	1. Measure capacity to the nearest 1/8 unit and use data to create line plots. 2. Make conversions within the customary measurement system in real world problems involving capacity. 3. Make conversions within the metric measurement system in real world problems involving capacity. 4. Solve multi-step, real world problems involving capacity conversion.	CC.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. CC.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.
Mass/Weight	1. Measure weight or mass to the nearest 1/8 unit and use data to create line plots. 2. Make conversions within the customary measurement system in real world problems involving weight. 3. Make conversions within the metric measurement system in real world problems involving mass. 4. Solve multi-step, real world problems involving weight or mass conversion.	CC.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. CC.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.

Category	Objectives	Standards
Time	1. Measure time to the nearest 1/4 unit and use data to create line plots.	CC.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.
	2. Make conversions among time measures. 3. Solve multi-step, real world problems involving time conversion.	CC.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.

Category	Objectives	Standards
Computation with Fractions	1. Add and subtract fractions with unlike denominators including mixed numbers using equivalent fractions. (Include those in which both denominators must be changed.)	CC.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.
	2. Solve word problems involving addition and subtraction of fractions. Write equations to represent problems and justify answers using models. 3. Estimate sums and differences of fractions to see if the answer makes sense.	CC.5.NF.2 Solve word problems involving addition and subtraction 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.
	4. Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. Write equations to represent problems and justify answers using models.	CC.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.
	5. Find the product of a fraction and a whole number. 6. Find the product of two fractions.	CC.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) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.
(continues)	7. Find the missing factor by comparing a product to a known factor.	CC.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 multiplication.

Category	Objectives	Standards
Computation with Fractions (continued)	8. Explain why some multiplication problems result in a product larger than either factor, some result in a product smaller than either factor, some result in a product between factors and some result in a product equal to one factor.	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 $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.
	9. Solve real world problems involving multiplication of fractions and mixed numbers. Write equations to represent problems and justify answers using models.	CC.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.
		CC.5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.
	10. Solve real world and mathematical problems involving division of a unit fraction by a (non-zero) whole number. Write equations to represent problems and justify answers using models.	a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.

b. Interpret division of a whole number by a unit fraction, and compute such quotients. |
| | 11. Solve real world and mathematical problems involving division of a whole number by a unit fraction. Write equations to represent problems and justify answers using models. | 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. |

Category	Objectives	Standards

Decimals	1. Represent decimals to thousandths using base ten numerals and number names.
	
	2. Write decimals in expanded form.
	
	3. Compare decimals to thousandths using >, =, and < symbols.
	
	4. Round decimals to any place.
	
	5. Generalize the patterns in place value to include decimals.
	
	6. Mentally multiply or divide by 10, including calculations on decimals or that result in decimals. Explain patterns.
	7. Use whole-number exponents to denote powers of 10.
		CC.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., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
		
		  b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
		
		CC.5.NBT.4 Use place value understanding to round decimals to any place.
		
		CC.5.NBT.1 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.
		
		CC.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.

Category	Objectives	Standards
Computation with Decimals	1. Add or subtract decimals to hundredths using models and/or strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Explain reasoning. 2. Multiply or divide decimals to hundredths using models and/or strategies based on place value, properties of operations, and/or the relationship between multiplication and division. Explain reasoning.	CC.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.
Data	1. Construct and interpret line plots, including representing fraction data. 2. Solve problems involving information presented in line plots, including using operations with fractions.	CC.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.

Edited April 26, 2012