

Number and Operations in Base Ten								
5.NBT.A Understand the place value system.				5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.				
<p>5.NBT.1. Understand 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. (MLS 5.NBT.A.3)</p>	<p>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. (MLS 5.NBT.A.4)</p>	<p>5.NBT.3. Read, write, and compare number from billions to thousandths.</p> <p>5.NBT.3a Read and write numbers from billions to thousandths using base-ten numerals, number names, and expanded form. (MLS 5.NBT.A.1)</p>	<p>5.NBT.3b Compare and order two numbers from billions to thousandths based on meanings of the digits in each place, using $>$, $=$ and $<$ symbols to record the results of comparisons. (MLS 5.NBT.A.2 & 5.NF.A.3)</p>	<p>5.NBT.4. Use place value understanding to round numbers from billions to thousandths. (MLS 5.NBT.A.5)</p>	<p>5.NBT.5. Fluently multiply multi-digit whole numbers and decimals to the hundredths place, and justify the solution. (MLS 5.NBT.A.7)</p>	<p>5.NBT.6. Find whole-number quotients of whole numbers and decimals to the hundredths place 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. (MLS 5.NBT.A.8)</p>	<p>5.NBT.7. Add, subtract, multiply, and divide decimals to thousandths, 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. (MLS 5.NBT.A.6)</p>	<p>MLE.5.RA.C.5 Solve and justify multi-step problems involving variables, whole numbers, fractions and decimals.</p>
Number and Operations - Fractions								
5.NF.A Use equivalent fractions as a strategy to add and subtract fractions.								
<p>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. (MLS 5.NF.B.6).</p>			<p>5.NF.2. Solve word problems involving addition, subtraction, and multiplication of fractions and decimals to thousandths, referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. (MLS.5.NF.B.4) & (MLS 5.NF.B.6).</p>			<p>MLE.5.NF.A.1 Understand that parts of a whole can be expressed as fractions and/or decimals.</p>	<p>MLE.5.NF.A.2 Convert decimals to fractions and fractions to decimals.</p>	
5.NF.B Apply and extend previous understandings of multiplication and division to multiply and divide fractions.								
<p>5.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p>		<p>5.NF.5. Interpret multiplication as scaling (resizing), by:</p>		<p>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. (MLS 5.NF.B.6).</p>		<p>5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.1</p>		
<p>5.NF.4a 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 $a \times q \div b$. (MLS.5.NF.B.7)</p>	<p>5.NF.4b 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. (MLS.5.NF.B.7)</p>	<p>MLE.5.NF.B. 7c - Calculate and interpret the product of two fractions less than one.</p>	<p>5.NF.5a Estimating and 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 (MLS 5.NF.B.5a).</p>	<p>5.NF.5b 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. (MLS 5.NF.B.5b,c,d).</p>	<p>5.NF.7a Interpret and calculate division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$. (MLS.5.NF.B.8)</p>	<p>5.NF.7b Interpret and calculate division of a whole number by a unit fraction, and compute such quotients. (MLS.5.NF.B.8)</p>		

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.NF.7c. 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?
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Operations and Algebraic Thinking

5.OA.A Write and interpret numerical expressions.		5.OA.B Analyze patterns and relationships.
5.OA.1. Use parentheses, brackets, or braces in numerical expressions, and interpret and evaluate expressions with these symbols. (MLS.5.RA.B.3)	5.OA.2. Translate written expressions that record calculations with numbers, and interpret algebraic expressions without evaluating them. (MLS.5.RA.B.4)	5.OA.3. Generate two numerical patterns using two given rules, and write a rule to describe or explain a given numeric pattern. 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. (MLS.5.RA.A.1 & MLS.5.RA.A.2)

Measurement and Data

5.MD.A Convert like measurement units within a given measurement system.	5.MD.B Represent and interpret data.	5.MD.C Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.				
5.MD.1. Convert measurements of capacity, length and weight within a given measurement system, and use these conversions in solving multi-step, real world problems. (MLS.5.GM.D.8) & (MLS.5.GM.D.9)	5.MD.2. Create a line plot to represent a given or generated data set, and analyze the data to answer questions and solve problems, recognizing the outliers and generating the median. (MLS.5.DS.A.2)	MLE.5.DS.A.1 - Create a line graph to represent a data set, and analyze the data to answer questions and solve problems.	5.MD.3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	5.MD.4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. (MLS.5.GM.B.4b)	5.MD.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.	
			5.MD.3a 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. (MLS.5.GM.B.4a)		5.MD.3b 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. (MLS.5.GM.B.4b)	5.MD.5a 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. (MLS.5.GM.B.4b)

Geometry

5.G.A Graph points on the coordinate plane to solve real-world and mathematical problems.			5.G.B Classify two- and three - dimensional figures into categories based on their properties.		
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). (MLS.5.GM.C.6)	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. (MLS.5.GM.C.7)	5.G.3. Understand that attributes belonging to a category of figures also belong to all subcategories of that category. (MLS.5.GM.A.1)	5.G.4. Classify figures in a hierarchy based on properties. (MLS.5.GM.A.2)	MLE.5.GM.A.3 - Analyze and describe the properties of prisms and pyramids.	

Blue - New wording coming from the NEW MLS

Red - Completely NEW standard from MLS

Green - In the CCSS but not in MLS