

**Main Criteria:** Common Core State Standards  
**Secondary Criteria:** California Content Standards, Pennsylvania Core and Academic Standards  
**Subject:** Mathematics  
**Grade:** 5

**Correlation Options:** Show Correlated

Main Criteria Standards	California Content Standards	Pennsylvania Core and Academic Standards
<b>Mathematics</b>		
<b>Grade 5</b>		
CATEGORY / CLUSTER: <b>CCSS.Math.Practice.MP1</b> - Make sense of problems and persevere in solving them.	<b>MP.1.</b> - Make sense of problems and persevere in solving them.	<b>CC.MP.1.</b> - Make sense of problems and persevere in solving them. <b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others. <b>CC.MP.3.</b> - Use appropriate tools strategically.  <b>CC.MP.4.</b> - Look for and make use of structure.  <b>CC.MP.5.</b> - Reason abstractly and quantitatively.  <b>CC.MP.6.</b> - Model with mathematics. <b>CC.MP.7.</b> - Attend to precision. <b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.
CATEGORY / CLUSTER: <b>CCSS.Math.Practice.MP2</b> - Reason abstractly and quantitatively.	<b>MP.2.</b> - Reason abstractly and quantitatively.	<b>CC.MP.1.</b> - Make sense of problems and persevere in solving them. <b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others. <b>CC.MP.3.</b> - Use appropriate tools strategically.  <b>CC.MP.4.</b> - Look for and make use of structure.  <b>CC.MP.5.</b> - Reason abstractly and quantitatively.  <b>CC.MP.6.</b> - Model with mathematics. <b>CC.MP.7.</b> - Attend to precision. <b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.

<p>CATEGORY / CLUSTER:  <b>CCSS.Math.Practice.MP3</b> - Construct viable arguments and critique the reasoning of others.</p>	<p><b>MP.3.</b> - Construct viable arguments and critique the reasoning of others.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.  <b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.  <b>CC.MP.3.</b> - Use appropriate tools strategically.    <b>CC.MP.4.</b> - Look for and make use of structure.    <b>CC.MP.5.</b> - Reason abstractly and quantitatively.    <b>CC.MP.6.</b> - Model with mathematics.  <b>CC.MP.7.</b> - Attend to precision.  <b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>CATEGORY / CLUSTER:  <b>CCSS.Math.Practice.MP4</b> - Model with mathematics.</p>	<p><b>MP.4.</b> - Model with mathematics.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.  <b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.  <b>CC.MP.3.</b> - Use appropriate tools strategically.    <b>CC.MP.4.</b> - Look for and make use of structure.    <b>CC.MP.5.</b> - Reason abstractly and quantitatively.    <b>CC.MP.6.</b> - Model with mathematics.  <b>CC.MP.7.</b> - Attend to precision.  <b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>CATEGORY / CLUSTER:  <b>CCSS.Math.Practice.MP5</b> - Use appropriate tools strategically.</p>	<p><b>MP.5.</b> - Use appropriate tools strategically.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.  <b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.  <b>CC.MP.3.</b> - Use appropriate tools strategically.    <b>CC.MP.4.</b> - Look for and make use of structure.</p>

		<p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>CATEGORY / CLUSTER:  <b>CCSS.Math.Practice.MP6</b> - Attend to precision.</p>	<p><b>MP.6.</b> - Attend to precision.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>CATEGORY / CLUSTER:  <b>CCSS.Math.Practice.MP7</b> - Look for and make use of structure.</p>	<p><b>MP.7.</b> - Look for and make use of structure.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>CATEGORY / CLUSTER:  <b>CCSS.Math.Practice.MP8</b> - Look for and express regularity in repeated reasoning.</p>	<p><b>MP.8.</b> - Look for and express regularity in repeated reasoning.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p>

		<p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p><b>STANDARD: CCSS.Math.Content.5.OA.A.1</b> - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.OA.1.</b> - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p>	<p><b>CC.2.2.5.A.1.</b> - Interpret and evaluate numerical expressions using order of operations.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>

<p><b>STANDARD: CCSS.Math.Content.5.OA.A.2</b> - 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 <math>2 \times (8 + 7)</math>. Recognize that <math>3 \times (18932 + 921)</math> is three times as large as <math>18932 + 921</math>, without having to calculate the indicated sum or product.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.OA.1.</b> - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> <p><b>5.OA.2.</b> - 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 <math>2 \times (8 + 7)</math>. Recognize that <math>3 \times (18932 + 921)</math> is three times as large as <math>18932 + 921</math>, without having to calculate the indicated sum or product.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p><b>STANDARD: CCSS.Math.Content.5.OA.B.3</b> - 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</p>	<p><b>5.NBT.2.</b> - 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.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p>

<p>"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.</p>	<p><b>5.OA.3.</b> - 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.</p>	<p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>STANDARD: <b>CCSS.Math.Content.5.NBT.A.1</b> - 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.</p>	<p><b>5.NBT.1.</b> - 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.</p> <p><b>5.NBT.2.</b> - 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.</p>	<p><b>CC.2.1.5.B.1.</b> - Apply place-value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p>

	<p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.6.</b> - 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.</p> <p><b>5.NBT.7.</b> - 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.</p>	<p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>STANDARD: <b>CCSS.Math.Content.5.NBT.A.2</b> - 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</p>	<p><b>5.NBT.1.</b> - 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 <math>1/10</math> of what it represents in the place to its left.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p>

divided by a power of 10. Use whole-number exponents to denote powers of 10.

**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.NBT.3.a.** - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g.,  $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .

**5.NBT.3.b.** - Compare two decimals to thousandths based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

**5.NBT.4.** - Use place value understanding to round decimals to any place.

**5.NBT.5.** - Fluently multiply multi-digit whole numbers using the standard algorithm.

**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.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.

**CC.MP.2.** - Construct viable arguments and critique the reasoning of others.

**CC.MP.3.** - Use appropriate tools strategically.

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.



**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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**5.NF.3.** - Interpret a fraction as division of the numerator by the denominator ( $\frac{a}{b} = a \div b$ ). 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  $\frac{3}{4}$  as the result of dividing 3 by 4, noting that  $\frac{3}{4}$  multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size  $\frac{3}{4}$ . If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

**5.NF.7.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?

**5.OA.1.** - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

	<p><b>5.OA.3.</b> - 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.</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NBT.A.3a</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.92 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)</math>.</p>	<p><b>5.NBT.1.</b> - 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.</p> <p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p>

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NBT.A.3b</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p>	<p><b>5.NBT.1.</b> - 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 <math>\frac{1}{10}</math> of what it represents in the place to its left.</p> <p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p>



**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>STANDARD: <b>CCSS.Math.Content.5.NBT.A.4</b> - Use place value understanding to round decimals to any place.</p>	<p><b>5.NBT.1.</b> - 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 <math>\frac{1}{10}</math> of what it represents in the place to its left.</p> <p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p>	<p><b>CC.2.1.5.B.1.</b> - Apply place-value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>STANDARD: <b>CCSS.Math.Content.5.NBT.B.5</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.5.</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p><b>5.NBT.6.</b> - 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.</p> <p><b>5.NBT.7.</b> - 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.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</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. 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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p><b>STANDARD: CCSS.Math.Content.5.NBT.B.6</b> - 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.</p>	<p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.NBT.1.</b> - 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 <math>\frac{1}{10}</math> of what it represents in the place to its left.</p> <p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

**5.NBT.3.b.** - Compare two decimals to thousandths based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

**5.NBT.4.** - Use place value understanding to round decimals to any place.

**5.NBT.5.** - Fluently multiply multi-digit whole numbers using the standard algorithm.

**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.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.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

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**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

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	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>STANDARD: <b>CCSS.Math.Content.5.NBT.B.7</b> - 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.</p>	<p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.NBT.1.</b> - 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 <math>\frac{1}{10}</math> of what it represents in the place to its left.</p> <p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p>	<p><b>CC.2.1.5.B.2.</b> - Extend an understanding of operations with whole numbers to perform operations including decimals.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p>

**5.NBT.3.b.** - Compare two decimals to thousandths based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

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**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.



**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. For example, recognize an incorrect result  $2/5 + 1/2 = 3/7$ , by observing that  $3/7 < 1/2$ .

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

	<p><b>5.NF.7.b.</b> - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</p> <p><b>5.NF.7.c.</b> - 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 <math>1/2</math> lb of chocolate equally? How many <math>1/3</math>-cup servings are in 2 cups of raisins?</p>	
<p>STANDARD: <b>CCSS.Math.Content.5.NF.A.1</b> - 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, <math>2/3 + 5/4 = 8/12 + 15/12 = 23/12</math>. (In general, <math>a/b + c/d = (ad + bc)/bd</math>.)</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p>	<p><b>CC.2.1.5.C.1.</b> - Use the understanding of equivalency to add and subtract fractions.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p>

**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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p><b>STANDARD: CCSS.Math.Content.5.NF.A.2</b> - 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. For example, recognize an incorrect result <math>\frac{2}{5} + \frac{1}{2} = \frac{3}{7}</math>, by observing that <math>\frac{3}{7} &lt; \frac{1}{2}</math>.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.7.</b> - 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.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</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. For example,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**5.NF.3.** - Interpret a fraction as division of the numerator by the denominator ( $\frac{a}{b} = a \div b$ ). 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  $\frac{3}{4}$  as the result of dividing 3 by 4, noting that  $\frac{3}{4}$  multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size  $\frac{3}{4}$ . If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.



**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.

	<p><b>5.NF.7.a.</b> - Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for <math>(1/3) \div 4</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>(1/3) \div 4 = 1/12</math> because <math>(1/12) \times 4 = 1/3</math>.</p> <p><b>5.NF.7.b.</b> - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</p> <p><b>5.NF.7.c.</b> - 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 <math>1/2</math> lb of chocolate equally? How many <math>1/3</math>-cup servings are in 2 cups of raisins?</p>	
<p><b>STANDARD: CCSS.Math.Content.5.NF.B.3</b> - Interpret a fraction as division of the numerator by the denominator (<math>a/b = a \div b</math>). 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.</p>	<p><b>5.NBT.2.</b> - 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.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p>

For example, interpret  $\frac{3}{4}$  as the result of dividing 3 by 4, noting that  $\frac{3}{4}$  multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size  $\frac{3}{4}$ . If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NBT.3.a.** - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g.,  $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .

**5.NBT.3.b.** - Compare two decimals to thousandths based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

**5.NBT.4.** - Use place value understanding to round decimals to any place.

**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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**CC.MP.2.** - Construct viable arguments and critique the reasoning of others.

**CC.MP.3.** - Use appropriate tools strategically.

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**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. For example, recognize an incorrect result  $2/5 + 1/2 = 3/7$ , by observing that  $3/7 < 1/2$ .

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

	<p><b>5.NF.7.b.</b> - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</p> <p><b>5.NF.7.c.</b> - 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 <math>1/2</math> lb of chocolate equally? How many <math>1/3</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.4a</b> - Interpret the product <math>(a/b) \times q</math> as a parts of a partition of <math>q</math> into <math>b</math> equal parts; equivalently, as the result of a sequence of operations <math>a \times q \div b</math>. For example, use a visual fraction model to show <math>(2/3) \times 4 = 8/3</math>, and create a story context for this equation. Do the same with <math>(2/3) \times (4/5) = 8/15</math>. (In general, <math>(a/b) \times (c/d) = ac/bd</math>.)</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p>	<p><b>CC.2.1.5.C.2.</b> - Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p>

**5.NBT.5.** - Fluently multiply multi-digit whole numbers using the standard algorithm.

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

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**5.NF.4.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.NF.5.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.



**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.4b</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.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.5.</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p><b>CC.2.1.5.C.2.</b> - Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.5a</b> - 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.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.5.</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p>

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.



**5.NF.5.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.

**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.

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**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.5b</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 <math>\frac{a}{b} = \frac{(n \times a)}{(n \times b)}</math> to the effect of multiplying <math>\frac{a}{b}</math> by 1.</p>	<p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

**5.NBT.4.** - Use place value understanding to round decimals to any place.

**5.NBT.5.** - Fluently multiply multi-digit whole numbers using the standard algorithm.

**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.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.

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**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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. For example, recognize an incorrect result  $2/5 + 1/2 = 3/7$ , by observing that  $3/7 < 1/2$ .

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

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**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

	<p><b>5.NF.7.b.</b> - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</p> <p><b>5.NF.7.c.</b> - 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 <math>1/2</math> lb of chocolate equally? How many <math>1/3</math>-cup servings are in 2 cups of raisins?</p>	
<p>STANDARD: <b>CCSS.Math.Content.5.NF.B.6</b> - Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p>	<p><b>CC.2.1.5.C.2.</b> - Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p>

**5.NBT.5.** - Fluently multiply multi-digit whole numbers using the standard algorithm.

**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.

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**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

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**5.NF.4.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.

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**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.7a</b> - Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for <math>(\frac{1}{3}) \div 4</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>(\frac{1}{3}) \div 4 = \frac{1}{12}</math> because <math>(\frac{1}{12}) \times 4 = \frac{1}{3}</math>.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.5.</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p>

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.7b</b> - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for <math>4 \div (\frac{1}{5})</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (\frac{1}{5}) = 20</math> because <math>20 \times (\frac{1}{5}) = 4</math>.</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.5.</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p>

**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.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.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,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ . (In general,  $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$ .)

**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. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.



**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>EXPECTATION:  <b>CCSS.Math.Content.5.NF.B.7c</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	<p><b>5.NBT.2.</b> - 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.</p> <p><b>5.NBT.3.a.</b> - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., <math>347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})</math>.</p> <p><b>5.NBT.3.b.</b> - Compare two decimals to thousandths based on meanings of the digits in each place, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p><b>5.NBT.4.</b> - Use place value understanding to round decimals to any place.</p> <p><b>5.NBT.5.</b> - Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p>

**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.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.

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**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

**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 pounds of rice should each person get? Between what two whole numbers does your answer lie?

**5.NF.4.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,  $(a/b) \times (c/d) = ac/bd$ .)

**5.NF.4.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.NF.5.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.

**5.NF.5.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.

**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.NF.7.a.** - Interpret 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  $(1/12) \times 4 = 1/3$ .

**5.NF.7.b.** - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .

	<p><b>5.NF.7.c.</b> - 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 <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</p>	
<p>STANDARD: <b>CCSS.Math.Content.5.MD.A.1</b> - 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.</p>	<p><b>5.MD.1.</b> - 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.</p>	<p><b>CC.2.4.5.A.1.</b> - Solve problems using conversions within a given measurement system.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>STANDARD: <b>CCSS.Math.Content.5.MD.B.2</b> - Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the</p>	<p><b>5.MD.2.</b> - Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different 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.</p>	<p><b>CC.2.4.5.A.4.</b> - Solve problems involving computation of fractions using information provided in a line plot.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p>

<p>beakers were redistributed equally.</p>		<p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>EXPECTATION:  <b>CCSS.Math.Content.5.MD.C.3a</b> - 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.</p>	<p><b>5.MD.3.a.</b> - 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.</p> <p><b>5.MD.3.b.</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.</p> <p><b>5.MD.4.</b> - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.MD.5.b.</b> - Apply the formulas <math>V = l \times w \times h</math> and <math>V = b \times h</math> 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.</p>	<p><b>CC.2.4.5.A.5.</b> - Apply concepts of volume to solve problems and relate volume to multiplication and to addition.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

	<p><b>5.MD.5.c.</b> - 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.</p>	<p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>EXPECTATION:  <b>CCSS.Math.Content.5.MD.C.3b</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.</p>	<p><b>5.MD.3.a.</b> - 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.</p> <p><b>5.MD.3.b.</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.</p> <p><b>5.MD.4.</b> - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.MD.5.b.</b> - Apply the formulas <math>V = l \times w \times h</math> and <math>V = b \times h</math> 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.</p>	<p><b>CC.2.4.5.A.5.</b> - Apply concepts of volume to solve problems and relate volume to multiplication and to addition.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>



	<p><b>5.MD.5.c.</b> - 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.</p>	<p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>STANDARD: <b>CCSS.Math.Content.5.MD.C.4</b> - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p>	<p><b>5.MD.3.a.</b> - 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.</p> <p><b>5.MD.3.b.</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.</p> <p><b>5.MD.4.</b> - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.MD.5.b.</b> - Apply the formulas <math>V = l \times w \times h</math> and <math>V = b \times h</math> 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.</p>	<p><b>CC.2.4.5.A.5.</b> - Apply concepts of volume to solve problems and relate volume to multiplication and to addition.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

	<p><b>5.MD.5.c.</b> - 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.</p>	<p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>EXPECTATION:  <b>CCSS.Math.Content.5.MD.C.5a</b> - 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.</p>	<p><b>5.MD.3.a.</b> - 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.</p> <p><b>5.MD.3.b.</b> - A solid figure which can be packed without gaps or overlaps using <math>n</math> unit cubes is said to have a volume of <math>n</math> cubic units.</p> <p><b>5.MD.4.</b> - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p><b>5.MD.5.a.</b> - 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.</p> <p><b>5.MD.5.b.</b> - Apply the formulas <math>V = l \times w \times h</math> and <math>V = b \times h</math> 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.</p>	<p><b>CC.2.4.5.A.5.</b> - Apply concepts of volume to solve problems and relate volume to multiplication and to addition.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p>

	<p><b>5.MD.5.c.</b> - 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.</p> <p><b>5.NBT.6.</b> - 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.</p> <p><b>5.NBT.7.</b> - 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.</p> <p><b>5.NF.5.b.</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 <math>a/b = (n \times a)/(n \times b)</math> to the effect of multiplying <math>a/b</math> by 1.</p>	<p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p>EXPECTATION:  <b>CCSS.Math.Content.5.MD.C.5b</b> - Apply the formulas <math>V = l \times w \times h</math> and <math>V = b \times h</math> for rectangular prisms to find volumes of right</p>	<p><b>5.MD.3.a.</b> - 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.</p>	<p><b>CC.2.4.5.A.5.</b> - Apply concepts of volume to solve problems and relate volume to multiplication and to addition.</p>

rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

**5.MD.3.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.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.

**5.MD.5.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.

**5.MD.5.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.

**CC.MP.1.** - Make sense of problems and persevere in solving them.

**CC.MP.2.** - Construct viable arguments and critique the reasoning of others.

**CC.MP.3.** - Use appropriate tools strategically.

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

EXPECTATION:

**CCSS.Math.Content.5.MD.C.5c** - Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right

**5.MD.3.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.

**CC.MP.1.** - Make sense of problems and persevere in solving them.

rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

**5.MD.3.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.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.

**5.MD.5.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.

**5.MD.5.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.

**CC.MP.2.** - Construct viable arguments and critique the reasoning of others.

**CC.MP.3.** - Use appropriate tools strategically.

**CC.MP.4.** - Look for and make use of structure.

**CC.MP.5.** - Reason abstractly and quantitatively.

**CC.MP.6.** - Model with mathematics.

**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.

<p><b>STANDARD: CCSS.Math.Content.5.G.A.1</b> - 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).</p>	<p><b>5.G.1.</b> - 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).</p> <p><b>5.G.2.</b> - 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.</p>	<p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
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<p><b>STANDARD: CCSS.Math.Content.5.G.A.2</b> - 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.</p>	<p><b>5.G.1.</b> - 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).</p> <p><b>5.G.2.</b> - 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.</p>	<p><b>CC.2.3.5.A.1.</b> - Graph points in the first quadrant on the coordinate plane and interpret these points when solving real world and mathematical problems.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
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<p><b>STANDARD: CCSS.Math.Content.5.G.B.3</b> - 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.</p>	<p><b>5.G.3.</b> - 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.</p> <p><b>5.G.4.</b> - Classify two-dimensional figures in a hierarchy based on properties.</p>	<p><b>CC.2.3.5.A.2.</b> - Classify two-dimensional figures into categories based on an understanding of their properties.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p> <p><b>CC.MP.7.</b> - Attend to precision.</p> <p><b>CC.MP.8.</b> - Look for and express regularity in repeated reasoning.</p>
<p><b>STANDARD: CCSS.Math.Content.5.G.B.4</b> - Classify two-dimensional figures in a hierarchy based on properties.</p>	<p><b>5.G.3.</b> - 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.</p> <p><b>5.G.4.</b> - Classify two-dimensional figures in a hierarchy based on properties.</p>	<p><b>CC.2.3.5.A.2.</b> - Classify two-dimensional figures into categories based on an understanding of their properties.</p> <p><b>CC.MP.1.</b> - Make sense of problems and persevere in solving them.</p> <p><b>CC.MP.2.</b> - Construct viable arguments and critique the reasoning of others.</p> <p><b>CC.MP.3.</b> - Use appropriate tools strategically.</p> <p><b>CC.MP.4.</b> - Look for and make use of structure.</p> <p><b>CC.MP.5.</b> - Reason abstractly and quantitatively.</p> <p><b>CC.MP.6.</b> - Model with mathematics.</p>



**CC.MP.7.** - Attend to precision.

**CC.MP.8.** - Look for and express regularity in repeated reasoning.