

**22-23 EWSD K-5 Math  
Essential Standards  
&  
Learning Targets**

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Grade K- Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>K.CC.1</b> Count to 100 by ones and tens.</p>	<ul style="list-style-type: none"> <li>Count to 20 by ones.</li> </ul>	<ul style="list-style-type: none"> <li>Count to 50 by ones.</li> </ul>	<ul style="list-style-type: none"> <li>Count to 100 by ones.</li> <li>Count to 100 by tens.</li> </ul>
<p><b>K.CC.3</b> Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).</p>	<ul style="list-style-type: none"> <li>Write numbers 0-10.</li> <li>Represent a group of objects, in any arrangement, with a written numeral 0-10.</li> </ul>	<ul style="list-style-type: none"> <li>Write numbers 11-20.</li> <li>Represent a group of objects, in any arrangement, with a written numeral 0-20.</li> </ul>	
<p><b>K.CC.4</b> Understand the relationship between numbers and quantities; connect counting to cardinality.</p>	<p><b>For quantities to 10:</b></p> <ul style="list-style-type: none"> <li>Count objects with 1-to-1 correspondence (each object is counted only once) regardless of arrangement and order.</li> <li>Tell "how many" are in a group after counting all the objects (cardinality).</li> <li>Show the last number says the number of items.</li> </ul>	<ul style="list-style-type: none"> <li>Explain when counting that the next number is one more or one larger.</li> </ul> <p><b>For quantities to 20:</b></p> <ul style="list-style-type: none"> <li>Count objects with 1-1 correspondence (each object is counted only once) regardless of arrangement and order.</li> <li>Tell "how many" are in a group after counting all the objects (cardinality).</li> <li>Show the last number says the number of items.</li> </ul>	<ul style="list-style-type: none"> <li>Count on from the original number of items in a set, when one more object is added to the group.</li> </ul>
<p><b>K.OA.1</b> Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. <small>Include groups with up to ten objects.</small></p>	<ul style="list-style-type: none"> <li>Use concrete materials to model how numbers to 5 are composed and decomposed.</li> </ul>	<ul style="list-style-type: none"> <li>Use concrete materials to model how numbers to 10 are composed and decomposed.</li> <li>Explain addition and subtraction with models - objects, fingers, drawings, sounds, acting out situations, or verbal explanations within 5</li> </ul>	<ul style="list-style-type: none"> <li>Explain addition and subtraction with models - objects, fingers, drawings, sounds, acting out situations, or verbal explanation within 10.</li> <li>Match models to equations and expressions provided by the teacher.</li> </ul>

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Grade 1- Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>1.OA.1</b> Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. <small>Students do not need to know the situation names.</small></p>	<p><b>For quantities within 10:</b></p> <ul style="list-style-type: none"> <li>Retell and represent addition and subtraction word problems using concrete objects.</li> <li>Solve addition and subtraction word problems with objects, drawings, math tools, words or numbers.</li> <li>Represent and explain strategies used to solve the problem.</li> </ul>	<p><b>For quantities within 15:</b></p> <ul style="list-style-type: none"> <li>Retell and represent addition and subtraction word problems using concrete objects.</li> <li>Solve addition and subtraction word problems with objects, drawings, math tools, words or numbers..</li> <li>Represent and explain strategies used to solve the problem.</li> <li>Connect equations to represent their work and explain how the equation represents the problem.</li> </ul>	<p><b>For quantities within 20:</b></p> <ul style="list-style-type: none"> <li>Retell and represent addition and subtraction word problems using concrete objects.</li> <li>Solve addition and subtraction word problems with objects, drawings, math tools, words or numbers..</li> <li>Represent and explain strategies used to solve the problem.</li> <li>Write equations to represent their work and explain how the equation represents the problem.</li> </ul>
<p><b>1.OA.6</b> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.</p>	<ul style="list-style-type: none"> <li>Use tools to develop understanding of strategies in adding and subtracting numbers with sums to 10.</li> </ul>	<ul style="list-style-type: none"> <li>Explain a strategy for finding the answer to an addition or subtraction fact with sums to 10, using objects, pictures, words and numbers.</li> <li>Use strategies that are efficient and make sense to them. Not all students will use the same strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate fluency for addition and subtraction facts with sums to 10.</li> <li>Extend use of strategies to facts with sums to 20, using concrete, pictorial and symbolic representations and explain their thinking</li> </ul>
<p><b>1.NBT.1</b> Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p>	<ul style="list-style-type: none"> <li>Count to 120.</li> </ul>	<ul style="list-style-type: none"> <li>Count to 120 starting at any number.</li> <li>Read and write numerals to 99.</li> <li>Label a set of objects up to 99 with the written numeral.</li> </ul>	<ul style="list-style-type: none"> <li>Read and write numerals to 120.</li> <li>Label a set of objects up to 120 with the written numeral.</li> </ul>

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Grade 1- Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <ul style="list-style-type: none"> <li>a. 10 can be thought of as a bundle of ten ones – called a "ten."</li> <li>b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</li> <li>c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</li> </ul>	<ul style="list-style-type: none"> <li>● Use objects to bundle or group 10 ones to make ten.</li> <li>● Differentiate between 1 ten (a bundle) and 10 ones and develop vocabulary to refer to a group of 10 as 1 ten..</li> <li>● Represent teen numbers using physical tools, drawings, and number names (1 ten and 3 one is 13).</li> </ul>	<ul style="list-style-type: none"> <li>● Use objects to bundle or group 10 ones to make tens.</li> <li>● Use concrete materials to represent numbers including 10, 20,...90 as groups of tens with no ones.</li> <li>● Describe decade numbers using vocabulary that include the number of groups of ten to reinforce understanding ten as a unit that is different from ones. (20 is 2 tens)</li> <li>● Use concrete materials to represent any number from 10-99 by making as many groups of ten as possible and number of ones.</li> <li>● Write the numerals with emphasis on identifying how the written number shows the number of tens and the number of ones.</li> <li>● Represent two-digit numbers using physical tools, drawings, and number names (2 tens is 20, 2 tens and 7 ones is 27).</li> </ul>	<ul style="list-style-type: none"> <li>● Explain the value of each digit in a two-digit number.</li> <li>● Connect words to the written numeral. For example, 3 tens and 2 ones is written as 32.</li> </ul>

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Grade 2- Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>2.OA.1</b> Use addition and subtraction within 100 to solve one-and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknown in all positions, e.g. by using drawings and equations with a symbol for the unknown number to represent the problem.</p>		<p><b>For any one-step word problem within 100:</b></p> <ul style="list-style-type: none"> <li>• Represent and explain strategy used to solve problems with physical models, representations, objects, drawings, math tools, words, or numbers.</li> <li>• Solve word problems with unknown numbers in different positions (e.g., <math>5 + \_ = 13</math>, <math>+ 8 = \_</math>).</li> <li>• Write equations to represent word problems.</li> <li>• Determine if an answer is reasonable through rounding and estimating.</li> </ul>	<p><b>For two-step word problems within 100:</b></p> <ul style="list-style-type: none"> <li>• Represent and explain strategy used to solve problems with physical models, representations, objects, drawings, math tools, words, or numbers.</li> <li>• Solve word problems with unknown numbers in different positions (e.g., <math>5 + \_ = 13</math>, <math>+ 8 = \_</math>).</li> <li>• Write equations to represent word problems.</li> <li>• Determine if an answer is reasonable through rounding and estimating.</li> </ul>
<p><b>2.OA.2</b> Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.</p>	<ul style="list-style-type: none"> <li>• Use a variety of materials and tools to develop understanding of strategies to find sums and differences with sums to 20.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain their strategy for finding the answer to an addition or subtraction fact with sums to 20, using materials, numbers, pictures or words.</li> <li>• Use strategies that are efficient and make sense to them. (Not all students will use the same strategy.)</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate fluency (with efficiency and accuracy based on understanding) for addition and subtraction facts with sums to 20 (sums of two 1-digit numbers).</li> </ul>
<p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones: e.g. 7-6 equals 7 hundreds, 0 tens and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens - called a "hundred" b. The numbers 100, 200, 300, 400, etc. refer to one, two, three, four, etc. hundreds (and 0 tens and 0 ones)</p>	<ul style="list-style-type: none"> <li>• Represent that 1 hundred is made of 10 tens.</li> <li>• Explain the value of each digit in a three digit number using place value vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>• Use objects or bundles of tens to make 100 or multiples of 100, 100, 200, ...900 and understand that they refer to 1, 2, ... 9 hundreds with zero tens and zero ones.</li> <li>• Represent three-digit numbers using hundreds, tens and ones, by making as many groups of 100 as possible, and explain the value of each digit in a three-digit number connecting physical tools, drawings, and number names.</li> <li>• Read numbers to 1000 in standard and expanded form (2.NBT.3)</li> </ul>	<ul style="list-style-type: none"> <li>• Decompose a three-digit number in various ways (i.e. 734 is 7 hundreds, 3 tens, and 4 ones or 6 hundreds, 13 tens, and 4 ones, or 7 hundreds, 2 tens, and 14 ones).</li> <li>• Write numbers to 1000 in standard and expanded form (2.NBT.3)</li> </ul>

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Grade 2- Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>2.NBT.5</b> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>	<ul style="list-style-type: none"> <li>Solve and explain strategy used to solve addition problems within 100 using manipulatives and models. (including physical tools, hundreds charts, drawings, number lines)</li> <li>Solve and explain strategy used to solve subtraction problems within 100 using manipulatives and models. (examples include physical tools, hundreds charts, drawings, number lines)</li> </ul>	<ul style="list-style-type: none"> <li>Use strategies to solve addition and subtraction problems within 100, including counting up, counting back, partial sums, partial difference, benchmark numbers, number lines.</li> <li>Estimate the sum or difference of an addition or subtraction problem.</li> </ul>	<ul style="list-style-type: none"> <li>Use mental computation strategies (using place value, properties of numbers and relationships) to solve addition and subtraction problems within 100 and explain strategy used.</li> </ul>
<p><b>2.NBT.8</b> Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.</p>	<ul style="list-style-type: none"> <li>Use manipulatives and strategies to add or subtract 10 or 100 from a three digit number.</li> </ul>	<ul style="list-style-type: none"> <li>Use place value understanding to explain patterns and reasoning when adding or subtracting 10 or 100 from a three digit number</li> </ul>	<ul style="list-style-type: none"> <li>Mentally add or subtract 10 from any given number 100-900 ( or find 10 more/ 10 less than a given number)</li> <li>Mentally add or subtract 100 from any given number 100-900 ( or find 100 more/ 100 less than a given number)</li> </ul>

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Grade 3 - Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>3.OA.1</b> Interpret products of whole numbers, e.g., interpret <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as <math>5 \times 7</math></p>		<ul style="list-style-type: none"> <li>• Represent multiplication with equal groups.</li> <li>• Represent multiplication with arrays.</li> <li>• Relate repeated addition to representations of multiplication.</li> <li>• Represent multiplication as equal jumps on a number line.</li> <li>• Describe how a multiplication chart relates to these representations.</li> <li>• Write an equation for a multiplication situation.</li> <li>• Represent multiplication with an area model.</li> </ul>	
<p><b>3.OA.2</b> Interpret whole-number quotients of whole numbers, e.g., interpret <math>56 \div 8</math> as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as <math>56 \div 8</math>.</p>		<ul style="list-style-type: none"> <li>• Use division to determine the size of each group when the number of groups is known (partitive, i.e. 12 apples in 3 bags. How many are in each bag?)</li> <li>• Use division to determine the number of groups when the size of each group is known. (quotative or measurement, 12 apples with 4 in each bag. How many bags?)</li> <li>• Represent division with models and drawings.</li> <li>• Write an equation for a division situation.</li> <li>• Describe how partitive and measurement division are different</li> </ul>	
<p><b>3.OA.3</b> Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p>		<ul style="list-style-type: none"> <li>• Use estimation to determine if answers are reasonable.</li> <li>• Represent a multiplication word problem with models, drawings or equations.</li> <li>• Represent a division word problem with models, drawings or equations.</li> </ul>	<ul style="list-style-type: none"> <li>• Use estimation or related facts to determine if answers are reasonable.</li> <li>• Solve word problems involving multiplication.</li> <li>• Solve word problems involving division.</li> </ul>

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Grade 3 - Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>3.OA.8</b> Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in conventional order when there are no parentheses to specify a particular order (Order of Operations).</p>	<ul style="list-style-type: none"> <li>● Write an equation using a letter for the unknown number.</li> <li>● Represent two-step addition and subtraction word problems within 100-1000 with models, pictures and equations where a multiple of 10 or 100 is added or subtracted.</li> </ul>	<ul style="list-style-type: none"> <li>● Represent two-step addition and subtraction word problems within 100-1000 with models, pictures and equations.</li> <li>● Determine if the solution to a two-step addition and subtraction word problem is reasonable..</li> <li>● Solve two-step addition and subtraction word problems within 100-1000.</li> <li>● Solve one-step multiplication and division problems within 100 with models, pictures and equations.</li> </ul>	<ul style="list-style-type: none"> <li>● Determine if the solution to a two-step word problem is reasonable.</li> <li>● Represent a two-step word problem with models, pictures or equations involving all operations.</li> <li>● Solve two-step word problems involving all operations within 0-1000.</li> </ul>
<p><b>3.NBT.2</b> Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. A range of algorithms may be used.</p>	<ul style="list-style-type: none"> <li>● Estimate sums and differences before calculating to determine reasonableness of answers.</li> <li>● Recognize subtraction as take away and difference.</li> <li>● Use strategies based upon place value understanding to solve addition and subtraction problems (including but are not limited to:                             <ul style="list-style-type: none"> <li>○ Partial sums and differences to add or subtract (decomposing one or both addends).</li> <li>○ Adjust numbers to add or subtract more efficiently)</li> </ul> </li> </ul>		

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Grade 3 - Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>3.NF.1</b> Understand a fraction <math>1/b</math> as the quantity formed by 1 part when a whole is partitioned into <math>b</math> equal parts; understand a fraction <math>a/b</math> as the quantity formed by <math>A</math> parts of size <math>1/b</math>. Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.</p>			<ul style="list-style-type: none"> <li>• Represent a unit fraction using a variety of models (i.e. area, set and length).</li> <li>• Represent a non-unit fraction using a variety of models (i.e. area, set and length).</li> <li>• Write fractions in <math>a/b</math> notation.</li> <li>• Describe the meaning of numerator and denominator.</li> <li>• Name various parts of the whole using fractions and explain that a fraction is made up of that number of unit pieces. (ie. <math>\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}</math>)</li> <li>• Demonstrate an understanding that, given the same size whole, the larger the denominator the smaller the size of the pieces because there are more pieces in the whole.</li> <li>• Identify and demonstrate fractional parts of a whole are the same size but not the same shape using concrete models.</li> </ul>
<p><b>3.NF.3.a</b> Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.</p>			<ul style="list-style-type: none"> <li>• Explain why equivalent fractions must describe the same-size whole.</li> <li>• Build sets of equivalent fractions using a variety of visual models (i.e. rectangular area models, fraction bars and number lines).</li> <li>• Explain equivalent fractions with various representations (i.e. rectangular area models, fraction bars and number lines).</li> <li>• Locate equivalent fractions on a number line.</li> <li>• Recognize patterns in equivalent fractions.</li> </ul>

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Grade 4 - Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>4.NBT.1</b> Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that <math>700 \div 70 = 10</math> by applying concepts of place value and division. <small>Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.</small></p>	<ul style="list-style-type: none"> <li>• Explain the value of each digit as ten times the value of the digit to its right.</li> <li>• Explain the value of each digit as one-tenth of the value of the digit to its left.</li> <li>• Describe patterns found in place value (i.e. 70,000 is ten times 7,000; 7,000 is ten times 700; b/c <math>10 \times 10</math> is 100, 70,000 must be 100 times 700).</li> </ul>		
<p><b>4.NBT.4</b> Fluently add and subtract multi-digit whole numbers using the standard algorithm. <small>Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000</small></p>	<ul style="list-style-type: none"> <li>• Adjust multi-digit numbers to add and subtract.</li> <li>• Use efficient mental strategies to compute when appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain and connect strategies for adding to the standard algorithm for addition.</li> <li>• Explain and connect strategies for subtracting to the standard algorithm for subtraction.</li> <li>• Add multi-digit numbers using the standard algorithm.</li> <li>• Subtract multi-digit numbers using the standard algorithm.</li> <li>• Determine when an algorithm is efficient and when it is not.</li> </ul>	
<p><b>4.NBT.5</b> Multiply a whole number of up to four digits by a one digit whole number, and multiply two two digit numbers using strategies based on place value. <small>Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000</small></p>		<p><b>For 2-digit or 3-digit factors by 1-digit factors:</b></p> <ul style="list-style-type: none"> <li>• Use a variety of models (arrays and area models) and strategies (partial products) to represent multi-digit factors times a one-digit factor.</li> <li>• Explain and represent multiplication of a multi-digit factor by a one-digit factor.</li> <li>• Multiply to solve word problems (4.OA.3).</li> </ul>	<p><b>For 2-digit, 3-digit or 4-digit factors by 1-digit factors and 2-digit by 2-digit numbers:</b></p> <ul style="list-style-type: none"> <li>• Extend this work to multiplication of 2 two-digit factors using pictures, words, and numbers.</li> <li>• Explain and represent multiplication of a two-digit factor by a two-digit factor.</li> <li>• Multiply to solve single and multi-step word problems (4.OA.3).</li> </ul>

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Grade 4 - Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>4.NBT.6</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000</p>			<ul style="list-style-type: none"> <li>● Use division to determine the size of each group when the number of groups is known (partitive, i.e. 12 apples in 3 bags. How many are in each bag?)</li> <li>● Use division to determine the number of groups when the size of each group is known. (quotative or measurement, 12 apples with 4 in each bag. How many bags?)</li> <li>● Represent multi-digit division (up to four-digit dividends by one-digit divisors) with models and drawings.</li> <li>● Write an equation for division situations.</li> <li>● Use partial quotients to divide multi-digit dividends by one-digit divisors.</li> <li>● Divide to solve word problems. Interpret the remainder when needed.</li> </ul>
<p><b>4.NF.1</b> Explain why a fraction <math>a/b</math> is equivalent to a fraction <math>(n \times a)/(n \times b)</math> by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.</p>			<ul style="list-style-type: none"> <li>● Represent whole numbers as fractions.</li> <li>● Represent equivalent fractions with various models (i.e. color tiles, pattern blocks, area models, fraction bars and number lines).</li> <li>● Explain why fractions are equivalent.</li> <li>● Generate equivalent fractions.</li> <li>● Recognize equivalence to <math>1/2</math> quickly.</li> </ul>

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Grade 4 - Essential Standards	Fall Targets	Winter Targets	Spring Targets
<p><b>4.NF.3b</b> Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: <math>3/8 = 1/8 + 1/8 + 1/8</math> ; <math>3/8 = 1/8 + 2/8</math> ; <math>2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8</math>.</p> <p>*Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. **Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.</p>			<ul style="list-style-type: none"> <li>● Compose and decompose a fraction (i.e. <math>7/12 = 4/12 + 1/12 + 1/12 + 1/12</math>).</li> <li>● Represent addition of fractions having the same denominator with varied models (including a number line).</li> <li>● Represent subtraction of fractions having the same denominator with varied models (including a number line).</li> <li>● Represent addition of mixed numbers having the same denominator with varied models (including a numberline).</li> <li>● Represent subtraction of mixed numbers having the same denominator with varied models (including a numberline).</li> </ul>

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Grade 5 - Essential Standards	Fall Standards	Winter Standards	Spring Standards
<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>			<ul style="list-style-type: none"> <li>• Read numerical expressions.</li> <li>• Write an expression to represent a situation (i.e. 7 more than 8 is expressed as <math>8 + 7</math>; 7 times a number is expressed as <math>7 \times n</math>)</li> <li>• Analyze expressions by interpreting the relationships among the numbers without evaluating them (i.e. <math>3 \times (750 + 250)</math> is three times as large as 1000).</li> </ul>
<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>	<ul style="list-style-type: none"> <li>• Explain the value of each digit as ten times the value of the digit to its right (including decimals)</li> <li>• Explain the value of each digit as one-tenth of the value of the digit to its left (including decimals)</li> <li>• Describe patterns found in place value (i.e. 70,000 is ten times 7,000; 7,000 is ten times 700; b/c <math>10 \times 10</math> is 100, 70,000 must be 100 times 700; conversely 700 is 1/100 of 70,000 using the same logic).</li> </ul>		
<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>	<ul style="list-style-type: none"> <li>• Explain the difference between partitive (how large are the groups?) and measurement (how many groups?) division.</li> </ul> <p><b>For 2-digit, 3-digit and 4-digit quotients by 1-digit divisors:</b></p> <ul style="list-style-type: none"> <li>• Use a variety of models to represent division (base-ten, area, array).</li> <li>• Relate division to multiplication.</li> <li>• Explain and use partial quotients to divide.</li> <li>• Solve problems using various division situations (including remainders)</li> </ul>	<p><b>For 2-digit, 3-digit and 4-digit quotients by 2-digit divisors:</b></p> <ul style="list-style-type: none"> <li>• Use a variety of models to represent division (base-ten, area, array).</li> <li>• Relate division to multiplication.</li> <li>• Use partial quotients or partial quotient algorithms to divide.</li> <li>• Solve problems that include various division situations (including remainders).</li> </ul>	

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Grade 5 - Essential Standards	Fall Standards	Winter Standards	Spring Standards
<p><b>5.NF.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.</p>		<ul style="list-style-type: none"> <li>• Generate common denominators of fractions and mixed numbers using representations and computation.</li> <li>• Generate equivalent fractions with common denominators.</li> </ul>	<ul style="list-style-type: none"> <li>• Represent addition of fractions and mixed numbers with varied representations.</li> <li>• Represent subtraction of fractions and mixed numbers with varied representations.</li> <li>• Connect representations of addition and subtraction of fractions and mixed numbers to equations.</li> <li>• Add fractions and mixed numbers using equations.</li> <li>• Subtract fractions and mixed numbers using equations.</li> <li>• Use reasoning to determine if their answer makes sense.</li> </ul>
<p><b>5.NF.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>			<ul style="list-style-type: none"> <li>• Explain the generalization that a fraction is a type of division problem.</li> <li>• Represent word problems that involve division of whole numbers.</li> <li>• Represent and explain a remainder as a fraction.</li> <li>• Solve a variety of division problems determining what to do with the remainder.</li> <li>• Model and write equations for problems in which the divisor is greater than the dividend and share their thinking about the quotient being a fraction.</li> </ul>

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Grade 5 - Essential Standards	Fall Standards	Winter Standards	Spring Standards
<p><b>5.NF.4a</b> Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>a. 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>			<ul style="list-style-type: none"> <li>● Represent multiplication of a fraction by a whole number.</li> <li>● Represent multiplication of a fraction by a fraction.</li> <li>● Estimate the product of a fraction by a whole number.</li> <li>● Estimate the product of a fraction by a fraction.</li> <li>● Multiply a fraction by a whole number.</li> <li>● Multiply a fraction by a fraction.</li> <li>● Solve word problems and story contexts that involve multiplication of a fraction by a whole number and fraction by a fraction.</li> </ul>
<p><b>5.MD.5a</b> Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>● Determine the volume of a rectangular prism.</li> <li>● Find the volume of a rectangular prism with whole-number side lengths by packing it with unit cubes.</li> <li>● Find volume by using multiplication of the area of the base x the height.</li> <li>● Relate finding the product of three numbers to finding volume.</li> <li>● Solve mathematical problems involving volume.</li> </ul>		

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