

———— Step-by-Step ————  
**Math to Mastery**  
 FOR SPECIAL EDUCATION & INTERVENTION

Math Resource	Common Core State Standards
<i>First Grade Level Bundle</i>	
Place Value and Number Sense Numbers to 120	<p><u>First Grade CCSS.1.NBT.A.1</u> 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> <p><u>First Grade CCSS.1.NBT.B.2</u> Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p><u>First Grade CCSS.1.NBT.B.3</u> Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>.</p> <p><u>First Grade CCSS.1.NBT.C.5</u> Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p>
Addition: Addends to 9 with Touch Points	<p><u>First Grade CCSS.1.OA.C.5</u> Relate counting to addition and subtraction. (e.g., by counting on 2 to add 2)</p> <p><u>First Grade CCSS.1.OA.C.6</u> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p> <p><u>First Grade CCSS.1.OA.B.3</u> Apply properties of operations as strategies to add and subtract. (These lessons teach the commutative property of addition through related facts.)</p> <p><u>Second Grade CCSS.2.OA.B.2</u> Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p>
Addition: Fact Fluency	<p><u>First Grade CCSS.1.OA.C.6</u> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p>
Subtraction: Minuends to 10 with Touch Points	<p><u>First Grade CCSS.1.OA.C.5</u> Relate counting to addition and subtraction. (e.g., by counting on 2 to add 2)</p> <p><u>First Grade CCSS.1.OA.C.6</u></p>

	<p>Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p> <p><u>Second Grade CCSS.2.OA.B.2</u></p> <p>Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p>
Subtraction: Fact Fluency	<p><u>First Grade CCSS.1.OA.C.6</u> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p>
Addition and Subtraction to 10: Word Problems	<p><u>First Grade CCSS.1.OA.A.1</u></p> <p>Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p>
Addition and Subtraction: Fact Families	<p><u>First Grade CCSS.1.OA.B.3</u></p> <p>Apply properties of operations as strategies to add and subtract. (commutative property of addition)</p> <p><u>First Grade CCSS.1.OA.B.4</u></p> <p>Understand subtraction as an unknown-addend problem. For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</p> <p><u>First Grade CCSS.1.OA.C.6</u></p> <p>Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; <i>using the relationship between addition and subtraction</i>; and creating equivalent but easier or known sums.</p>
Addition: Missing Addends	<p><u>First Grade CCSS.1.OA.B.4</u></p> <p>Understand subtraction as an unknown-addend problem. For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</p>
Addition: Making Ten	<p><u>First Grade CCSS.1.OA.C.6</u></p> <p>Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; <i>making ten</i>; decomposing a number leading to a ten, using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p>

Addition: Three Addends	<p><u>First Grade CCSS.1.OA.A.2</u> Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p>
Addition: Teens Plus One-Digit Numbers	<p><u>First Grade CCSS.1.OA.C.5</u> Relate counting to addition and subtraction. (e.g., by counting on 2 to add 2)</p> <p><u>First Grade CCSS.1.OA.C.6</u> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p> <p><u>Second Grade CCSS.2.OA.B.2</u> Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p>
Subtraction: Teens Minus One-Digit Numbers	<p><u>First Grade CCSS.1.OA.C.5</u> Relate counting to addition and subtraction. (e.g., by counting on 2 to add 2)</p> <p><u>First Grade CCSS.1.OA.C.6</u> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.</p> <p><u>Second Grade CCSS.2.OA.B.2</u> Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p>
Addition and Subtraction: Unknowns in All Positions	<p><u>First Grade CCSS.1.OA.D.7</u> Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.</p> <p><u>First Grade CCSS.1.OA.D.8</u> Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = \underline{\quad} - 3</math>, <math>6 + 6 = \underline{\quad}</math></p>

Multi-Digit Addition and Subtraction: Double-Digit with No Regrouping	<p><u>First Grade CCSS.1.NBT.C.4</u> Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p>
<i>Second Grade Level Bundle</i>	
Place Value and Number Sense: Numbers 120 to 999	<p>Second Grade 2.NBT.A.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. 2.NBT.A.2 Count within 1000; skip-count by 5's, 10s, and 100s *(note: this workbook does not address counting by 5's) 2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. 2.NBT.A.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using &gt;, =, and &lt; symbols to record the results of comparisons. *(note: this workbook does not contain = problems, only &lt; and &gt;.) 2.NBT.B.8 Mentally add 10 or 100 to a given number 100-900 and mentally subtract 10 or 100 from a given number 100-900. *(note: optional workspace is provided for students who are not yet able to do this mentally.) Third Grade 3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100. *(note: number lines are provided to make the concept of rounding clear to students)</p>
Multi-Digit Addition with Regrouping	<p><u>Second Grade CCSS.2.NBT.B.6</u> Add up to four two-digit numbers using strategies based on place value and properties of operations. <u>Second Grade CCSS.2.NBT.B.5</u> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <u>Third Grade CCSS.3.NBT.A.2</u> 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.</p>

	<p><u>Fourth Grade CCSS.4.NBT.B.4</u> Fluently add and subtract multi-digit whole numbers using the standard algorithm.</p>
Multi-Digit Subtraction with Regrouping	<p><u>Second Grade CCSS.2.NBT.B.5</u> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p><u>Second Grade CCSS.2.NBT.B.7</u> Add and subtract within 1000 . . . Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p><u>Third Grade CCSS.3.NBT.A.2</u> 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.</p> <p><u>Fourth Grade CCSS.4.NBT.B.4</u> Fluently add and subtract multi-digit whole numbers using the standard algorithm.</p>
Multi-Digit Addition and Subtraction: Word Problems	<p><u>Second Grade CCSS.2.OA.A.1</u> 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 unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p><u>Third Grade CCSS.3.NBT.A.2</u> 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.</p> <p><u>Fourth Grade CCSS.4.NBT.B.4</u> Fluently add and subtract multi-digit whole numbers using the standard algorithm.</p>
Fractions: Basic Concepts	<p><u>First Grade CCSS.1.G.A.3</u> Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves</i>, <i>fourths</i>, and <i>quarters</i>, and use the phrases <i>half of</i>, <i>fourth of</i>, and <i>quarter of</i>. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p> <p><u>Second Grade CCSS.2.G.A.3</u></p>

	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
Time to the Nearest Five Minutes	<u>First Grade CCSS.1.MD.B.3</u> Tell and write time in hours and half-hours using analog and digital clocks. <u>Second Grade CCSS.2.MD.C.7</u> Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
Money: Dollar Bills and Coins	<u>Second Grade CCSS.2.MD.C.8</u> Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
<i>Third Grade Level Bundle</i>	
Multiplication: Concepts and Factors to 10	<u>Second Grade CCSS.2.OA.C.4</u> Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. <u>Third Grade CCSS.3.OA.A.1</u> Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as $5 \times 7$ . <u>Third Grade CCSS.3.OA.A3</u> Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities <u>Third Grade CCSS.3.OA.B.5</u> Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) Note: The associative and distributive properties are not addressed in this chapter. <u>Third Grade CCSS.3.OA.C.7</u> Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. Note: This chapter only addresses factors to 10. Larger numbers are taught in chapters 5 and 6.
Multiplication: Fact Fluency	<u>Third Grade CCSS.3.OA.C.7</u>

	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
Multiplication: Missing Factors	<u>Third Grade CCSS.3.OA.A.4</u> Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$ , $5 = \_ \div 3$ , $6 \times 6 = ?$ *Note: This chapter only addresses the multiplication portion of this standard.
Division: Concepts and Divisors to 10	<u>Third Grade CCSS.3.OA.A.2</u> Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$ .
Division and Multiplication: Fact Families	<u>Third Grade CCSS.3.OA.A.4</u> Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations</i> $8 \times ? = 48$ , $5 = \_ \div 3$ , $6 \times 6 = ?$
Division and Multiplication: Word Problems	<u>Third Grade CCSS.3.OA.A.3</u> 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.
Fractions: Representing Fractions on a Number Line	<u>Second Grade CCSS.2.G.A.3</u> Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. <u>Third Grade CCSS.3.NF.A.1</u> Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into $b$ equal parts; understand a fraction $a/b$ as the quantity formed by $a$ parts of size $1/b$ . <u>Third Grade CCSS.3.NF.A.2</u>

	Understand a fraction as a number on the number line; represent fractions on a number line diagram.
<i>Fourth Grade Level Bundle</i>	
Multiplication: One-Digit by Multi-Digit Factors	<p><u>Fourth Grade CCSS.4.NBT.B.5</u>  Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.  *Note: Two-digit by two-digit numbers are introduced in a separate workbook, chapter 6. This chapter only addresses one-digit by two-, three-, and four-digit numbers.</p>
Multiplication: Multi-Digit Factors	<p><u>Fourth Grade CCSS.4.NBT.B.5</u>  Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.  <u>Fifth Grade CCSS.5.NBT.B.5</u>  Fluently multiply multi-digit whole numbers using the standard algorithm.</p>
Multiplication: Distributive Property	<p><u>Third Grade CCSS.3.OA.B.5</u>  Apply properties of operations as strategies to multiply and divide. (Distributive property)  <u>Fourth Grade CCSS.4.NB.B.5</u>  Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p>
Division: Remainders	<p><u>Fourth Grade CCSS.4.NBT.B.6</u>  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.  *Note: This chapter teaches up to two-digit dividends and one-digit divisors. Larger numbers are taught in chapters 6 and 7.</p>



Division: Long Division with Single-Digit Divisors	<p><u>Fourth Grade CCSS.4.NBT.B.6</u> 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.</p>
Fractions: Add and Subtract Like Denominators	<p><u>Fourth Grade CCSS.4.NF.B.3.A</u> Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</p> <p><u>Fourth Grade CCSS.4.NF.B.3.C</u> Add and subtract mixed numbers with like denominators, e.g., by using properties of operations and the relationship between addition and subtraction.</p> <p><u>Fourth Grade CCSS.4.NF.B.3.D</u> Solve problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</p>
Fractions: Multiply Fractions and Convert to Mixed Numbers	<p><u>Fourth Grade CCSS.4.NF.B.4</u> Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p><u>Fourth Grade CCSS.4.NF.B.4.C</u> Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.</p>
<i>Fifth Grade Level Bundle</i>	
Division: Long Division with Two-Digit Divisors	<p><u>Fifth Grade CCSS.5.NBT.B.6</u> 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>
Fractions: Equivalent Fractions	<p><u>Fifth Grade CCSS.5NF.A.1</u> Add and subtract fractions with unlike denominators (including mixed numbers) <i>by replacing given fractions with equivalent fractions</i> in such a way as to produce an equivalent sum or difference of fractions with like denominators.</p>

	This workbook teaches a prerequisite skill for this standard.
Fractions: Add and Subtract Unlike Fractions	<p><u>Fourth Grade CCSS.4NF.A.2</u> Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as <math>\frac{1}{2}</math>. . . . Record the results of comparisons with symbols <math>&gt;</math>, <math>=</math> or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual fraction model.</p> <p><u>Fifth Grade CCSS.5NF.A.1</u> 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> <p><u>Fifth Grade CCSS.5NF.A.2</u> 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 .</p>
Fractions: Dividing Fractions	<p><u>Fifth Grade CCSS.5.NF.B.3</u> Interpret a fraction as division of the numerator by the denominator. 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><u>Fifth Grade CCSS.5.NF.B.7</u> Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p><u>Sixth Grade CCSS.6.NS.A.1</u> Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p>
Fractions: Simplify Fractions	<p><u>Fourth or Fifth Grade Common Core</u> There is no Common Core standard specifically addressing simplifying (or reducing) fractions to lowest terms. There is an emphasis on rewriting equivalent fractions: <u>Fourth Grade CCSS.4.NF.A.1</u> 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 <i>recognize and generate equivalent fractions</i>. <u>Fifth Grade CCSS.5NF.A.1</u></p>

	Add and subtract fractions with unlike denominators (including mixed numbers) <i>by replacing given fractions with equivalent fractions</i> in such a way as to produce an equivalent sum or difference of fractions with like denominators.
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