

**Blackwater Community School
Curriculum Map 2015-2016**

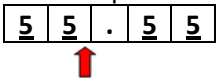
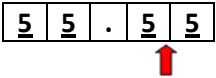
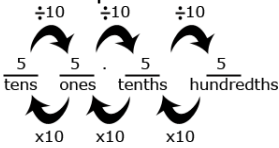
Fifth Grade Quarter 1

Module 1: Place Value and Decimal Fractions


Approximately 20 days – Begin around July 27th


In Module 1, students’ understanding of the patterns in the base ten system are extended from Grade 4’s work with place value of multi-digit whole numbers and decimals to hundredths to the thousandths place. In Grade 5, students deepen their knowledge through a more generalized understanding of the relationships between and among adjacent places on the place value chart, e.g., 1 tenth times any digit on the place value chart moves it one place value to the right. Toward the module’s end students apply these new understandings as they reason about and perform decimal operations through the hundredths place.

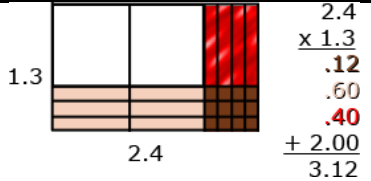
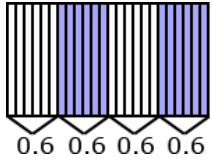
Major Clusters:			5.NBT.A – Understand the place value system. 5.NBT.B – Perform operations with multi-digit whole numbers and with decimals to hundredths.		
Supporting Clusters:			MD.A – Convert like measurement units within a given measurement system.		
Vocabulary			Thousandths, Exponents, Millimeters, Equation		
Domain	Cluster	Standard	Arizona’s College and Career Ready Standards	Explanations & Examples	Notes & Resources
5.NBT	A	1	<p>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 $\frac{1}{10}$ of what it represents in the place to its left.</p> <p><i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.6.</i> Attend to precision. <i>5.MP.7.</i> Look for and make use of structure.</p>	<p>In fourth grade, students examined the relationships of the digits in numbers for whole numbers only. This standard extends this understanding to the relationship of decimal fractions. Students use base ten blocks, pictures of base ten blocks, and interactive images of base ten blocks to manipulate and investigate the place value relationships. They use their understanding of unit fractions to compare decimal places and fractional language to describe those comparisons.</p> <p>Before considering the relationship of decimal fractions, students express their understanding that in multi-digit whole numbers, a digit in one place represents 10 times what it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.</p> <p>A student thinks, “I know that in the number 5555, the 5 in the tens place (55<u>5</u>5) represents 50 and the 5 in the hundreds place (5<u>5</u>55) represents 500. So a 5 in the hundreds place is ten times as much as a 5 in the tens</p>	<p>Engage NY M1 Lessons 1-4 This standard is addressed again in Module 2.</p> <p>enVision Topic 1</p>

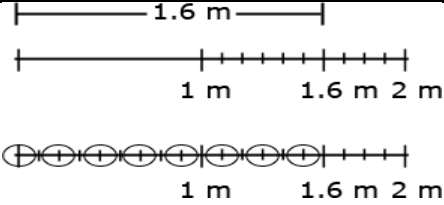
Domain	Cluster	Standard	Arizona's College and Career Ready Standards	Explanations & Examples	Notes & Resources
				<p>place or a 5 in the tens place is $\frac{1}{10}$ of the value of a 5 in the hundreds place.</p> <p>To extend this understanding of place value to their work with decimals, students use a model of one unit; they cut it into 10 equal pieces, shade in, or describe $\frac{1}{10}$ of that model using fractional language (“This is 1 out of 10 equal parts. So it is $\frac{1}{10}$”. I can write this using $\frac{1}{10}$ or 0.1”). They repeat the process by finding $\frac{1}{10}$ of a $\frac{1}{10}$ (e.g., dividing $\frac{1}{10}$ into 10 equal parts to arrive at $\frac{1}{100}$ or 0.01) and can explain their reasoning, “0.01 is $\frac{1}{10}$ of $\frac{1}{10}$ thus is $\frac{1}{100}$ of the whole unit.”</p> <p>In the number 55.55, each digit is 5, but the value of the digits is different because of the placement.</p> <div style="text-align: center;">  <p>The 5 that the arrow points to is $\frac{1}{10}$ of the 5 to the left and 10 times the 5 to the right. The 5 in the ones place is $\frac{1}{10}$ of 50 and 10 times five tenths.</p> </div> <div style="text-align: center;">  <p>The 5 that the arrow points to is $\frac{1}{10}$ of the 5 to the left and 10 times the 5 to the right. The 5 in the tenths place is 10 times five hundredths.</p> </div> <div style="text-align: center;">  </div>	
5.NBT	A	2	<p>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>	<ul style="list-style-type: none"> Students might write: $36 \times 10 = 36 \times 10^1 = 360$ $36 \times 10 \times 10 = 36 \times 10^2 = 3600$ $36 \times 10 \times 10 \times 10 = 36 \times 10^3 = 36,000$ $36 \times 10 \times 10 \times 10 \times 10 = 36 \times 10^4 = 360,000$ Students might think and/or say: I noticed that every time, I multiplied by 10 I added a zero to the end of 	<p>Engage NY M1 Lessons 1- 4 This standard is addressed again in Module 2.</p>

Domain	Cluster	Standard	Arizona's College and Career Ready Standards	Explanations & Examples	Notes & Resources										
			<p>5.MP.2. Reason abstractly and quantitatively. 5.MP.6. Attend to precision. 5.MP.7. Look for and make use of structure.</p>	<p>the number. That makes sense because each digit's value became 10 times larger. To make a digit 10 times larger, I have to move it one place value to the left.</p> <p>When I multiplied 36 by 10, the 30 became 300. The 6 became 60 or the 36 became 360. So I had to add a zero at the end to have the 3 represent 3 one-hundreds (instead of 3 tens) and the 6 represents 6 tens (instead of 6 ones).</p> <ul style="list-style-type: none"> Students should be able to use the same type of reasoning as above to explain why the following multiplication and division problem by powers of 10 make sense. <p>$523 \times 10^3 = 523,000$ The place value of 523 is increased by 3 places. $5.223 \times 10^2 = 522.3$ The place value of 5.223 is increased by 2 places. $52.3 \div 10^1 = 5.23$ The place value of 52.3 is decreased by one place.</p>	<p>enVision Topic 3,6,7</p>										
5.NBT	A	3 a b	<p>Read, write, and compare decimals to thousandths.</p> <p>a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.</p> <p>b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <p>5.MP.2. Reason abstractly and quantitatively. 5.MP.4. Model with mathematics. 5.MP.5. Use appropriate tools strategically. 5.MP.6. Attend to precision. 5.MP.7. Look for and make use of structure.</p>	<p>Students build on the understanding they developed in fourth grade to read, write, and compare decimals to thousandths. They connect their prior experiences with using decimal notation for fractions and addition of fractions with denominators of 10 and 100. They use concrete models and number lines to extend this understanding to decimals to the thousandths. Models may include base ten blocks, place value charts, grids, pictures, drawings, manipulatives, technology-based, etc. They read decimals using fractional language and write decimals in fractional form, as well as in expanded notation as show in the standard 3a. This investigation leads them to understanding equivalence of decimals ($0.8 = 0.80 = 0.800$).</p> <p>Example:</p> <ul style="list-style-type: none"> Some equivalent forms of 0.72 are: <table style="margin-left: 40px;"> <tr> <td>$72/100$</td> <td>$70/100 + 2/100$</td> </tr> <tr> <td>$7/10 + 2/100$</td> <td>0.720</td> </tr> <tr> <td>$7 \times (1/10) + 2 \times (1/100)$</td> <td>$7 \times (1/10) + 2 \times (1/100) + 0 \times (1/1000)$</td> </tr> <tr> <td>$(1/100)$</td> <td>$720/1000$</td> </tr> <tr> <td>$0.70 + 0.02$</td> <td></td> </tr> </table>	$72/100$	$70/100 + 2/100$	$7/10 + 2/100$	0.720	$7 \times (1/10) + 2 \times (1/100)$	$7 \times (1/10) + 2 \times (1/100) + 0 \times (1/1000)$	$(1/100)$	$720/1000$	$0.70 + 0.02$		<p>Engage NY M1 Lessons 5-6, 9-16</p> <p>enVision Topic 1</p>
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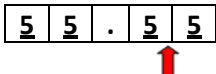
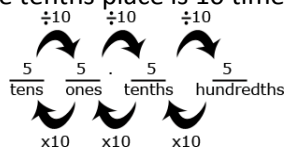
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				<p>Students need to understand the size of decimal numbers and relate them to common benchmarks such as 0, 0.5 (0.50 and 0.500), and 1. Comparing tenths to tenths, hundredths to hundredths, and thousandths to thousandths is simplified if students use their understanding of fractions to compare decimals.</p> <p>Example:</p> <ul style="list-style-type: none"> Comparing 0.25 and 0.17, a student might think, "25 hundredths is more than 17 hundredths". They may also think that it is 8 hundredths more. They may write this comparison as $0.25 > 0.17$ and recognize that $0.17 < 0.25$ is another way to express this comparison. Comparing 0.207 to 0.26, a student might think, "Both numbers have 2 tenths, so I need to compare the hundredths. The second number has 6 hundredths and the first number has no hundredths so the second number must be larger. Another student might think while writing fractions, "I know that 0.207 is 207 thousandths (and may write $207/1000$). 0.26 is 26 hundredths (and may write $26/100$) but I can also think of it as 260 thousandths ($260/1000$). So, 260 thousandths is more than 207 thousandths. 	
5.NBT	A	4	<p>Use place value understanding to round decimals to any place.</p> <p><i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.6.</i> Attend to precision. <i>5.MP.7.</i> Look for and make use of structure.</p>	<p>When rounding a decimal to a given place, students may identify the two possible answers, and use their understanding of place value to compare the given number to the possible answers.</p> <p>Example:</p> <ul style="list-style-type: none"> Round 14.235 to the nearest tenth. Students recognize that the possible answer must be in tenths thus, it is either 14.2 or 14.3. They then identify that 14.235 is closer to 14.2 (14.20) than to 14.3 (14.30). <div style="text-align: center;">  </div>	<p>Engage NY M1 Lessons 7-8</p> <p>enVision Topic 1</p>

Domain	Cluster	Standard	Arizona's College and Career Ready Standards	Explanations & Examples	Notes & Resources
5.NBT	B	7	<p>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><i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.3.</i> Construct viable arguments and critique the reasoning of others. <i>5.MP.4.</i> Model with mathematics. <i>5.MP.5.</i> Use appropriate tools strategically. <i>5.MP.7.</i> Look for and make use of structure.</p>	<p>This standard requires students to extend the models and strategies they developed for whole numbers in grades 1-4 to decimal values. Before students are asked to give exact answers, they should estimate answers based on their understanding of operations and the value of the numbers.</p> <p>Examples:</p> <ul style="list-style-type: none"> • $3.6 + 1.7$ <ul style="list-style-type: none"> ○ A student might estimate the sum to be larger than 5 because 3.6 is more than $3\frac{1}{2}$ and 1.7 is more than $1\frac{1}{2}$. • $5.4 - 0.8$ <ul style="list-style-type: none"> ○ A student might estimate the answer to be a little more than 4.4 because a number less than 1 is being subtracted. • 6×2.4 <ul style="list-style-type: none"> ○ A student might estimate an answer between 12 and 18 since 6×2 is 12 and 6×3 is 18. Another student might give an estimate of a little less than 15 because s/he figures the answer to be very close, but smaller than $6 \times 2\frac{1}{2}$ and think of $2\frac{1}{2}$ groups of 6 as 12 (2 groups of 6) + 3 ($\frac{1}{2}$ of a group of 6). <p>Students should be able to express that when they add decimals they add tenths to tenths and hundredths to hundredths. So, when they are adding in a vertical format (numbers beneath each other), it is important that they write numbers with the same place value beneath each other. This understanding can be reinforced by connecting addition of decimals to their understanding of addition of fractions. Adding fractions with denominators of 10 and 100 is a standard in fourth grade.</p> <p>Example: $4 - 0.3$</p> <ul style="list-style-type: none"> • 3 tenths subtracted from 4 wholes. The wholes must be divided into tenths.  <p>The answer is 3 and $\frac{7}{10}$ or 3.7.</p> <p>Example: An area model can be useful for illustrating products.</p>	<p>Engage NY M1 Lessons 9-16 This standard is addressed again in Module 2 and 4.</p> <p>enVision Topic 1,2,4,6,7</p>

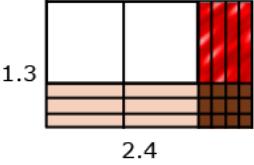
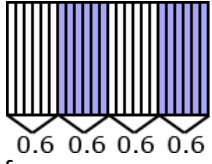
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				<div style="text-align: center;">  </div> <p>Students should be able to describe the partial products displayed by the area model. For example, "3/10 times 4/10 is 12/100. 3/10 times 2 is 6/10 or 60/100. 1 group of 4/10 is 4/10 or 40/100. 1 group of 2 is 2."</p> <p>Example: Finding the number in each group or share</p> <ul style="list-style-type: none"> Students should be encouraged to apply a fair sharing model separating decimal values into equal parts such as <div style="text-align: center;">  </div> <p>Example: Find the number of groups</p> <ul style="list-style-type: none"> Joe has 1.6 meters of rope. He has to cut pieces of rope that are 0.2 meters long. How many can he cut? To divide to find the number of groups, a student might: <ul style="list-style-type: none"> draw a segment to represent 1.6 meters. In doing so, s/he would count in tenths to identify the 6 tenths, and be able identify the number of 2 tenths within the 6 tenths. The student can then extend the idea of counting by tenths to divide the one meter into tenths and determine that there are 5 more groups of 2 tenths. 	

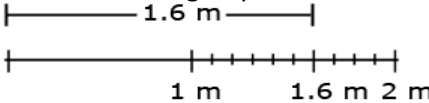
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				 <p>1.6 m</p> <p>1 m 1.6 m 2 m</p> <p>1 m 1.6 m 2 m</p> <ul style="list-style-type: none"> ○ count groups of 2 tenths without the use of models or diagrams. Knowing that 1 can be thought of as 10/10, a student might think of 1.6 as 16 tenths. Counting 2 tenths, 4 tenths, 6 tenths, . . .16 tenths, a student can count 8 groups of 2 tenths. ○ Use their understanding of multiplication and think, “8 groups of 2 is 16, so 8 groups of 2/10 is 16/10 or 1 6/10.” 	
5.MD	A	1	<p>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><i>5.MP.1.</i> Make sense of problems and persevere in solving them.</p> <p><i>5.MP.2.</i> Reason abstractly and quantitatively.</p> <p><i>5.MP.5.</i> Use appropriate tools strategically.</p> <p><i>5.MP.6.</i> Attend to precision.</p>	<p>In fifth grade, students build on their prior knowledge of related measurement units to determine equivalent measurements. Prior to making actual conversions, they examine the units to be converted, determine if the converted amount will be more or less units than the original unit, and explain their reasoning. They use several strategies to convert measurements. When converting metric measurement, students apply their understanding of place value and decimals.</p>	<p>Engage NY M1 Lessons 1-4 This standard is briefly addressed in this module. It is addressed again in Module 2 and 4.</p> <p>enVision Topic 13</p>

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				<p>To further develop students' understanding of grouping symbols and facility with operations, students place grouping symbols in equations to make the equations true or they compare expressions that are grouped differently.</p> <p>Examples:</p> <ul style="list-style-type: none"> • $15 - 7 - 2 = 10 \rightarrow 15 - (7 - 2) = 10$ • $3 \times 125 \div 25 + 7 = 22 \rightarrow [3 \times (125 \div 25)] + 7 = 22$ • $24 \div 12 \div 6 \div 2 = 2 \times 9 + 3 \div \frac{1}{2} \rightarrow 24 \div [(12 \div 6) \div 2] = (2 \times 9) + (3 \div \frac{1}{2})$ • Compare $3 \times 2 + 5$ and $3 \times (2 + 5)$ • Compare $15 - 6 + 7$ and $15 - (6 + 7)$ 	
5.OA	A	2	<p>Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i></p> <p><i>5.MP.1.</i> Make sense of problems and persevere in solving them. <i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.7.</i> Look for and make use of structure. <i>5.MP.8.</i> Look for and express regularity in repeated reasoning.</p>	<p>Students use their understanding of operations and grouping symbols to write expressions and interpret the meaning of a numerical expression.</p> <p>Example:</p> <ul style="list-style-type: none"> • Students write an expression for calculations given in words such as "divide 144 by 12, and then subtract 8." They write $(144 \div 12) - 8$. <p>Students use tape diagrams to represent simple expressions.</p> <p>Example:</p> <ul style="list-style-type: none"> • Show a tape diagram to represent 3 times the sum of 26 and 4. <div style="border: 1px solid black; width: 200px; height: 20px; margin: 10px auto; display: flex; justify-content: space-between;"> <div style="width: 33%;"></div> <div style="width: 33%;"></div> <div style="width: 33%;"></div> </div> <p style="text-align: center;">$26 + 4$</p>	<p>Engage NY M2 Lessons 3-12 This standard is addressed again in Module 4 and 6.</p> <p>enVision Topic 8</p>
5.NBT	A	1	<p>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 $\frac{1}{10}$ of what it represents in the place to its left.</p> <p><i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.6.</i> Attend to precision.</p>	<p>In fourth grade, students examined the relationships of the digits in numbers for whole numbers only. This standard extends this understanding to the relationship of decimal fractions. Students use base ten blocks, pictures of base ten blocks, and interactive images of base ten blocks to manipulate and investigate the place value relationships. They use their understanding of unit fractions to compare decimal places and fractional language to describe those comparisons.</p>	<p>Engage NY M2 Lessons 1-2, 10-15</p> <p>enVision Topic 1</p>

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			5.MP.7. Look for and make use of structure.	<p>Before considering the relationship of decimal fractions, students express their understanding that in multi-digit whole numbers, a digit in one place represents 10 times what it represents in the place to its right and 1/10 of what it represents in the place to its left.</p> <p>A student thinks, "I know that in the number 5555, the 5 in the tens place (55<u>5</u>5) represents 50 and the 5 in the hundreds place (5<u>5</u>55) represents 500. So a 5 in the hundreds place is ten times as much as a 5 in the tens place or a 5 in the tens place is 1/10 of the value of a 5 in the hundreds place.</p> <p>To extend this understanding of place value to their work with decimals, students use a model of one unit; they cut it into 10 equal pieces, shade in, or describe 1/10 of that model using fractional language ("This is 1 out of 10 equal parts. So it is 1/10". I can write this using 1/10 or 0.1"). They repeat the process by finding 1/10 of a 1/10 (e.g., dividing 1/10 into 10 equal parts to arrive at 1/100 or 0.01) and can explain their reasoning, "0.01 is 1/10 of 1/10 thus is 1/100 of the whole unit."</p> <p>In the number 55.55, each digit is 5, but the value of the digits is different because of the placement.</p> <div style="text-align: center;">  <p>The 5 that the arrow points to is 1/10 of the 5 to the left and 10 times the 5 to the right. The 5 in the ones place is 1/10 of 50 and 10 times five tenths.</p> </div> <div style="text-align: center;">  <p>The 5 that the arrow points to is 1/10 of the 5 to the left and 10 times the 5 to the right. The 5 in the tenths place is 10 times five hundredths.</p> </div> <div style="text-align: center;">  </div>	

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5.NBT	A	2	<p>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><i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.6.</i> Attend to precision. <i>5.MP.7.</i> Look for and make use of structure.</p>	<ul style="list-style-type: none"> Students might write: $36 \times 10 = 36 \times 10^1 = 360$ $36 \times 10 \times 10 = 36 \times 10^2 = 3600$ $36 \times 10 \times 10 \times 10 = 36 \times 10^3 = 36,000$ $36 \times 10 \times 10 \times 10 \times 10 = 36 \times 10^4 = 360,000$ Students might think and/or say: I noticed that every time, I multiplied by 10 I added a zero to the end of the number. That makes sense because each digit's value became 10 times larger. To make a digit 10 times larger, I have to move it one place value to the left. When I multiplied 36 by 10, the 30 became 300. The 6 became 60 or the 36 became 360. So I had to add a zero at the end to have the 3 represent 3 one-hundreds (instead of 3 tens) and the 6 represents 6 tens (instead of 6 ones). Students should be able to use the same type of reasoning as above to explain why the following multiplication and division problem by powers of 10 make sense. $523 \times 10^3 = 523,000$ The place value of 523 is increased by 3 places. $5.223 \times 10^2 = 522.3$ The place value of 5.223 is increased by 2 places. $52.3 \div 10^1 = 5.23$ The place value of 52.3 is decreased by one place. 	<p>Engage NY M2 Lessons 13-15</p> <p>enVision Topic 3,6,7</p>
5.NBT	B	5	<p>Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p><i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.6.</i> Attend to precision. <i>5.MP.7.</i> Look for and make use of structure. <i>5.MP.8.</i> Look for and express regularity in repeated reasoning.</p>	<p>In prior grades, students used various strategies to multiply. Students can continue to use these different strategies as long as they are efficient, but must also understand and be able to use the standard algorithm. In applying the standard algorithm, students recognize the importance of place value.</p> <p>Example: 123×34. When students apply the standard algorithm, they, decompose 34 into $30 + 4$. Then they multiply 123 by 4, the value of the number in the ones place, and then multiply 123 by 30, the value of the 3 in the tens place, and add the two products.</p>	<p>Engage NY M2 Lessons 3-9, 13-15</p> <p>enVision Topic 3</p>
5.NBT	B	7	Add, subtract, multiply, and divide decimals to	This standard requires students to extend the models and strategies they	

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			<p>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>5.MP.2. Reason abstractly and quantitatively. 5.MP.3. Construct viable arguments and critique the reasoning of others. 5.MP.4. Model with mathematics. 5.MP.5. Use appropriate tools strategically. 5.MP.7. Look for and make use of structure.</p>	<p>developed for whole numbers in grades 1-4 to decimal values. Before students are asked to give exact answers, they should estimate answers based on their understanding of operations and the value of the numbers.</p> <p>Example:</p> <ul style="list-style-type: none"> • 6×2.4 <ul style="list-style-type: none"> ○ A student might estimate an answer between 12 and 18 since 6×2 is 12 and 6×3 is 18. Another student might give an estimate of a little less than 15 because s/he figures the answer to be very close, but smaller than $6 \times 2 \frac{1}{2}$ and think of $2 \frac{1}{2}$ groups of 6 as 12 (2 groups of 6) + 3 ($\frac{1}{2}$ of a group of 6). <p>Example: An area model can be useful for illustrating products.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;">  <p>1.3</p> <p>2.4</p> </div> <div style="margin-left: 20px;"> $\begin{array}{r} 2.4 \\ \times 1.3 \\ \hline .12 \\ .60 \\ + 2.00 \\ \hline 3.12 \end{array}$ </div> </div> <p>Students should be able to describe the partial products displayed by the area model. For example, $\frac{3}{10}$ times $\frac{4}{10}$ is $\frac{12}{100}$. $\frac{3}{10}$ times 2 is $\frac{6}{10}$ or $\frac{60}{100}$. 1 group of $\frac{4}{10}$ is $\frac{4}{10}$ or $\frac{40}{100}$. 1 group of 2 is 2.”</p> <p>Example: Finding the number in each group or share</p> <ul style="list-style-type: none"> • Students should be encouraged to apply a fair sharing model separating decimal values into equal parts such as <div style="text-align: center; margin: 20px 0;">  <p>0.6 0.6 0.6 0.6</p> </div> <p>Example: Find the number of groups</p> <ul style="list-style-type: none"> • Joe has 1.6 meters of rope. He has to cut pieces of rope that are 0.2 meters long. How many can he cut? 	<p>Engage NY M2 Lessons 10-15 This standard is addressed again in Module 4.</p> <p>enVision Topic 1,2,4,6,7</p>

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				<ul style="list-style-type: none"> • To divide to find the number of groups, a student might: <ul style="list-style-type: none"> ○ draw a segment to represent 1.6 meters. In doing so, s/he would count in tenths to identify the 6 tenths, and be able identify the number of 2 tenths within the 6 tenths. The student can then extend the idea of counting by tenths to divide the one meter into tenths and determine that there are 5 more groups of 2 tenths.  <p>The diagram shows two horizontal lines. The top line is labeled '1.6 m' and has a bracket above it. The bottom line is labeled '1 m' and has a bracket below it. Both lines are divided into 10 equal segments (tenths). The 1.6 m line has 6 tenths marked, and the 1 m line has 10 tenths marked.</p> <ul style="list-style-type: none"> ○ count groups of 2 tenths without the use of models or diagrams. Knowing that 1 can be thought of as 10/10, a student might think of 1.6 as 16 tenths. Counting 2 tenths, 4 tenths, 6 tenths, . . .16 tenths, a student can count 8 groups of 2 tenths. ○ Use their understanding of multiplication and think, “8 groups of 2 is 16, so 8 groups of 2/10 is 16/10 or 1 6/10.” 	
5.MD	A	1	<p>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><i>5.MP.1.</i> Make sense of problems and persevere in solving them. <i>5.MP.2.</i> Reason abstractly and quantitatively. <i>5.MP.5.</i> Use appropriate tools strategically. <i>5.MP.6.</i> Attend to precision.</p>	<p>In fifth grade, students build on their prior knowledge of related measurement units to determine equivalent measurements. Prior to making actual conversions, they examine the units to be converted, determine if the converted amount will be more or less units than the original unit, and explain their reasoning. They use several strategies to convert measurements. When converting metric measurement, students apply their understanding of place value and decimals.</p>	<p>Engage NY M2 Lessons 13-15 This standard is addressed again in Module 4.</p> <p>enVision Topic 13</p>