Fifth Grade Mathematics Curriculum Map, Quarter 1, 2019-2020

Quarter 1		
TN Standards **The Major Work of the Grade for TN Standards Assessments are bolded.**	**Learning Outcomes**	**Content** **Resources** **Bolded Math Practices are the Math Practices that can be taught with that task.**
Week 1-3 -Beginning of the year procedures, Accountable Talk, etc. and (5.NBT.A.1 and 5.NBT.A.2) Place Value		
5.NBT **Number and Operations in Base Ten (NBT)** **A. Understand the place value system** **5.NBT.A.1 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.** **5.NBT.A.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.**	**Enduring Understandings** 1. Place value can be used to compare and order whole numbers and decimals as well as tell how many. 2. Some numbers can be represented using a base number and an exponent. 3. Understanding place value can lead to number sense and efficient strategies for computing numbers. **Essential Questions** 1. (1-1) How can you describe the relationship between two place-value positions? 2. (1-2) How do you read, write, and represent whole numbers through hundred millions? 3. (1-4) How can you use an exponent to show powers of 10? 4. (1-5) How can you use a basic fact and a pattern to multiply by a 2-digit number. **Learning Targets** I can recognize the 10 to 1 relationship among place value positions. I can read and write whole numbers through hundred millions. I write and evaluate repeated factors in exponent form. I can use basic fact and a pattern to multiply mentally	***INSTRUCTIONAL FOCUS DOCUMENT FOR TENNESSEE** **Go Math** 1-1 Investigate-Place Value and Patterns (5.NBT.A.1) **MP2, MP5, MP7** 1-2 Place Value of Whole Numbers (5.NBT.A.1) **MP1, MP2, MP7** 1-4 Algebra-Powers of 10 and Exponents (5.NBT.A.2) **MP2, MP7, MP8** 1-5 Algebra-Mutiplication Patterns (5.NBT.A.2) **MP2, MP3, MP8** **Mathematical Practices Focus (Students)** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. **NCTM Effective Teaching Practices**

	by multiples of 10, 100, and 1,000. I understand the relationship of place value positions in numbers. I *can* read and write numbers through the millions. I *can* recognize that each place to the left is 10 times larger in a multi-digit number. I *can* recognize that each place to the right is 1/10 as much as multi-digit number. I *can* express powers of ten using whole-number exponents. I *can* illustrate and explain a pattern for how the number of zeros of a product-when multiplying a whole number by power of 10-relates to the power of 10 (e.g.500-which is 5 x 100, or 5x10 to the second power-has two zeros in its product.) I know that an exponent tells how many times to write the base as a factor. I know that a power of 10 represents a base ten place value position. I can relate the concrete model I used to solve problems into mathematical representations using numbers and symbols. I can explain the strategy I used to solve the problem. I can justify my reasoning.	1. Establish mathematics goals to focus learning. 2. Implement tasks that promote reasoning and problem solving. 3. Build procedural fluency from conceptual understanding. 4. Pose purposeful questions. 5. Use and connect mathematics representations 6. Facilitate meaningful mathematics discourse. 7. Elicit and use evidence of student thinking. 8. Support productive struggle in learning mathematics. **Literary Math Focus** 1. Use multiple reading strategies. 2. Understand and use correct mathematical vocabulary. 3. Discuss and articulate mathematical ideas. 4. Write mathematical arguments. **EngageNY** **Module 1: Place Value and Decimal Fractions** **Topic A: Multiplicative Patterns on the Place Value chart** **Lesson 1** **Lesson 2** **Lesson 3** **Lesson 4** **Instructional Tasks**: TNCore Treehouse Task **Mathematics Tasks Arcs** **Place Value and Base Ten (5.NBT.1, 5.NBT.2, 5.NBT.3, 5.NBT.4)** **Instructional Tasks:** 5.NBT.A. Are these equivalent to 9.52?

		5.NBT.A.1. **Kipton's Scale** ○ Millions and Billions of People ○ Tenths and Hundredths ○ Which number is it? **5.NBT.A.2.** ○ Marta's Multiplication Error ○ Multiplying Decimals by 10 **Vocabulary:** place value, period, patterns, standard form, expanded form, word form, comma, units, thousands, millions, exponent, base, squared, cubed **Tools:** place value flip charts, place value chart worksheets, number-line ***More Optional Activities are below:*** **Journal Topics:** -Journal-The Write Way, Go Math p.4D -Explain how 10 is used in our place value number system. -How are all the different forms of the number related (standard form, words, expanded form)? -How many times greater is the 7 in 7,592 than the 7 in 5.7? Explain your reasoning. -Reflections on new learning ….How did I do on the learning? What could I do better on in the lesson? -Consider the numbers 4,205,176 and 4,008. What is the difference in the values of the digit 4 in each number? -Consider 7 x 10 to the third power. Write a pattern

		to find the value of the expression. -Kyle says that 20 x 10 to the fourth power is the same as 20,000. He reasoned that since he saw 4 as the exponent that he should write 4 zeros in his answers. Is Kyle Correct? Explain. **Song**- "Ones, Tens, Hundreds, That's the Place for Me!" Place Value Song- (Words) "Ones, Tens, Hundreds, That's the Place for Me!" Place Value Song (Audio) **Literature Connection**: How Much is a Million? By David Schwartz **Slideshow Lesson- Using Powers of 10** **SlideshowLesson-Comparing Using Powers of 10** **Slideshow Lesson**- Place Value **Links:** **Study Jams- Math- Numbers- Place Value** **Study Jams- Math- Numbers- Expanded Notation** **BrainPop- Math- Exponents** **BrainPop**- Math- Standard and Scientific Notation 901 Math Videos

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TN Standards **The Major Work of the Grade for TN Standards Assessments are bolded.**	**Learning Outcomes**	**Content** **Resources** **Bolded Math Practices are the Math Practices that can be taught with that task.**
Weeks 4-5 (5.NBT.A.3, 5.NBT.A.4, and 5.NBT.B.7) Place Value with Decimals		

5.NBT.A
Number and Operations in Base Ten
A. Understand the place value system

5.NBT.A.3 Read and write decimals to the thousandths using standard form, word form, and expanded form (e.g., the expanded form of 347.392 is written as 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000). Compare two decimals to thousandths based on meanings of the digits in each place and use the symbols >,=, and < to show the relationship.

5.NBT.A.4 Round decimals to the nearest hundredth, tenth, or whole number using understanding of place value.

5.NBT.B
Number and Operations in Base Ten (NBT)
B. Perform operations with multi-digit whole numbers and with decimals to hundredths.

5.NBT.B.7 Add, subtract, multiply, and divide decimals to the hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationships between operations; assess the reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or divisor is a whole number.)

Enduring Understandings

1. Whenever we get 10 in one place value, we move to the next greater place value.
2. Decimals allow for representations of a variety of real world values.
3. Computational fluency includes understanding not only the meaning but also the appropriate use of numerical operations.
4. The magnitude of number affects the outcome of operations on them.
5. Context is critical when using estimation.

Essential Questions

1. (3-1) How can you describe the relationship between two decimal place-value positions?
2. (3-2) How do you read, write, and represent decimals through thousandths?
3. (3-3) How can you use place value to compare and order decimals?
4. (3-4) How can you use place value to round decimals to a given place?
5. (3-5) How can you use base-ten blocks to model decimal addition?
6. (3-6) How can you use base-ten blocks to model decimal subtraction?
7. (3-7) How can you estimate decimal sums and differences?
8. (3-8) How can place value help you add decimals?
9. (3-9) How can place value help you subtract decimals?

***INSTRUCTIONAL FOCUS DOCUMENT FOR TENNESSEE**

Go Math
3-1, Estimate Decimal Sums and Differences (5.NBT.B.7) **MP4, MP5, MP7**
3-2, Place Value of Decimals (5.NBT.A.3a) **MP2, MP7**
3-3, Compare and Order Decimals (5.NBT.A3b) **MP2, MP6**
3-4, Rounding Decimals (5.NBT.A.4) **MP3, MP6, MP8**
3-5, Investigate-Decimal Addition (5.NBT.B.7) **MP5, MP6, MP8**
3-6, Investigate-Decimal Subtraction (5.NBT.B.7) **MP2, MP5, MP8**
3-7 Estimate Decimal Sums and Differences (5.NBT.B.7) **MP2, MP5, MP6**
3-8, Add Decimals (5.NBT.B.7) **MP1, MP2, MP8**
3-9, Subtract Decimals (5.NBT.B.7) **MP1, MP2, MP5**
3-10, Algebra-Patterns with Decimals (5.NBT.B.7) **MP7, MP8**
3-11, Problem Solving-Add and Subtract Money (5.NBT.B.7) **MP1**
3-12, Choose a Method (5.NBT.B.7) **MP1, MP2, MP5**

Mathematical Practices Focus (Students)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

NCTM Effective Teaching Practices

1. Establish mathematics goals to focus learning.
2. Implement tasks that promote reasoning and problem solving.
3. Build procedural fluency from conceptual understanding.
4. Pose purposeful questions.
5. Use and connect mathematics representations
6. Facilitate meaningful mathematics discourse.
7. Elicit and use evidence of student thinking.

	10. (3-10) How can you use addition or subtraction to describe a pattern or create a sequence with decimals? **11.** (3-11) How can the strategy Make a Table help you organize and keep track of your bank account balance? **12.** (3-12) Which method could you choose to find decimal sums and differences? **Learning Targets** I can model, read, and write decimals to thousandths. I can model decimal addition and subtraction using base-ten blocks. I know place value to the thousandths. I can read and write numbers in word form. I can write numbers in expanded form using unit fractions. I can write decimals as a fraction. I understand decimal equivalents (e.g. 0.8=0.80=0.800=8/10=80/100). I know how to multiply a whole number by a unit fraction. I can read number to the thousandths. I can write numbers in expanded form incorporating unit fractions and decimals. I can read, write, and use each symbol (= < >) when comparing numbers. I know to compare like place value positions. I know that if both decimals have the same digit in the tenths place, then I must compare the hundredths, and if those digits are the same, I must compare the digit in the thousandths. I *can* add and subtract decimals to	8. Support productive struggle in learning mathematics. **Literary Math Focus** 1. Use multiple reading strategies. 2. Understand and use correct mathematical vocabulary. 3. Discuss and articulate mathematical ideas. 4. Write mathematical arguments. **EngageNY** **Module 1** **Topic B: Decimal Fractions and Place Value Patterns** **Lesson 5** **Lesson 6** **Topic C: Place Value and Rounding Decimal Fractions** **Lesson 7** **Lesson 8** **Topic D: Adding and Subtracting Decimals** **Lesson 9** **Lesson 10** **Instructional Tasks**: 5th Grade Task: Place Value Game: Addition and Subtraction (5.NBT.1, 5.NBT.7) **Instructional Tasks:** **5.NBT.A.3. Are these equivalent to 9.52?** ○ Comparing Decimals on the Number Line ○ Placing Thousandths on the Number Line. **5.NBT.A.3.b. Drawing Pictures to Illustrate Decimal Comparisons** **5.NBT.A.4. Rounding to Tenths and Hundredths**

	hundredths using strategies based on place value, properties of operations, or other strategies. I *can* explain and illustrate strategies using concrete models or drawings when adding and subtracting decimals to hundredths. I *can* use the value of the digit to the right of the place to be rounded to determine whether to round up or down. I *can* round decimals to any place. I *can* explain how to use place value and what digits to look at to round decimals to any place. I *can* explain how to use place value and what digits to look at to round decimals to any place. I *can* estimate decimals. I can add to models (e.g. block drawings and base ten blocks) for adding and multiplying numbers with decimals. I can break down or take away from models (e.g. block drawings and base ten blocks) for subtracting and dividing with decimals. I can remember and use the properties of addition, subtraction, multiplication, and division to solve problems with decimals. I can turn my concrete model into a written mathematical problem using the standard operations. I can explain how to join and separate numbers to the hundredths. I know how adding the same number over and over is related with a multiplication strategy. I know how taking away the same number over and over is connected to a division strategy. I can relate the concrete model I used to	**5.NBT.B.7** 5.NBT The Value of Education **gfletchy- 3-Act Tasks** **5.NBT.B.3** **Final Lap and Chasing Gold** **Vocabulary**: decimal, decimal place, decimal point, tenths, hundredths, thousandths, compare, greater than, less than, least, between, greatest, number line, before, after, number order, benchmark, round **Tools:** place value chart, grid paper, place value flip chart, Decimal Dogs ***More Optional Activities are below:*** **Journal Topics:** -Journal –The Write Way, Go Math p. 150B -Explain how our place value system is based on powers of 10. -Which is greater 3.7 or 3.12? Explain your reasoning. -Reflections on new learning ….How did I do on the learning? What could I do better on in the lesson? -Explain how you know that the digit 6 does not have the same value in the numbers 3.675 and 3.756 -Explain why any number less than 12.5 and greater than or equal to 11.5 would round to 12 when rounded to the nearest whole number. -Explain why it is important to remember to line up the place values in each number when adding or subtracting decimals. **Songs**: "Line up the Decimals" (Words) "Line up the Decimals" (Audio) "Here We Go Rounding Numbers Today" (Words) "Here We Go Rounding Numbers Today" (Audio) "Let's Take it to the Right of the Decimal Point" (Words) "Let's Take it to the Right of the Decimal Point" (Audio) **Literature Connection:** Pigs will be Pigs by Amy Axelrod Slide Show- MultiplicationExponential Expanded Form

	solve problems into mathematical representations using numbers and symbols. I can explain the strategy I used to solve the problem. I can justify my reasoning. I can use concrete materials to model addition, subtraction, multiplication, and division problems. I can create models that explain strategies for solving addition, subtraction, multiplication, and division problems. I can write a mathematical representation of the problem and solve it using the model I used to solve the problem.	**Slideshow Lesson- Comparing Decimals** **Slideshow Lesson- Rounding Decimals** **Links:** **Study Jams- Math- Numbers- Order Whole Numbers** **Study Jams- Math- Numbers- Estimate Whole Numbers** **BrainPop-Math- Decimals** **BrainPop**- Math – Rounding 901 Math Videos

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Weeks 6-7 (5.NBT.B.5 and 5.NBT.B.7) Multiplication		
5.NBT.B **Numbers and Operations in Base Ten (NBT)** **B. Perform operations with multi-digit whole numbers and with**	**Enduring Understandings** 1. Multiplication is related to both addition and division. 2. Computational fluency includes understanding not only the meaning but	***INSTRUCTIONAL FOCUS DOCUMENT FOR TENNESSEE** **Go Math**

decimals to hundredths. **<u>5.NBT.B.5-</u> Fluently multiply multi-digit whole numbers (up to three digit by four-digit factors) using appropriate strategies and algorithms.** **<u>5.NBT.B.7</u> Add, subtract, multiply, and divide decimals to the hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationships between operations; assess the reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or divisor is a whole number.)**	also the appropriate use of numerical operations. 3. The standard multiplication algorithm breaks the calculation into simpler calculations using place value starting with the ones, then the tens, etc. 4. The magnitude of numbers affects the outcome of operations on them. 5. Context is critical when using estimation. **<u>Essential Questions</u>** **1.** (1-6) How do you multiply by 1-digit numbers? **2.** (1-7) How do you multiply by Multi-digit numbers? **3.** (4-1) How can patterns help you place the decimal point in a product? **4.** (4-2) How can you use a model to multiply a whole number and a decimal? **5.** (4-3) How can you use properties and place value to multiply a decimal and a whole number? **6.** (4-4) How can you use expanded form and place value to multiply a decimal and a whole number? **7.** (4-5) How can the strategy Draw a Diagram help you solve a decimal multiplication problem? **8.** (4-6) How can you use a model to multiply decimals? 9. (4-7) What strategies can you use to place a decimal point in a product? **10.** (4-8) How do you know you have the correct number of decimal places in your product? **<u>Learning Targets</u>** I *can* explain the standard algorithm for multi-digit whole number multiplication.	1-6 Multiply by 1-Digit Number (5.NBT.B.5) **MP1, MP2, MP3** 1-7 Multiply by Multi-Digit Numbers **(5.NBT.B.5) MP1, MP4, MP6** 4-1 Multiplication Patterns with Decimals **(5.NBT.A.2)(5.NBT.B.7) MP2, MP3, MP6** 4-2 Multiply Decimals and Whole Numbers **(5.NBT.B.7)MP2, MP4,MP6** 4-3 Multiplication with Decimals and Whole Numbers **(5.NBT.B.7) MP2, MP3, MP6** 4-4 Multiply Using Expanded Form (5.NBT.B.7)(5.NBT.A.2) **MP1, MP3 MP6** 4-5 Problem Solving * Multiply Money (5.NBT.B.7) **MP1, MP4** 4-6 Decimal Multiplication (5.NBT.B.7) **MP2, MP3, MP8** 4-7 Multiply Decimals (5.NBT.B.7)(5.NBT.A.2) **MP1, MP3, MP8** 4-8 Zeros in the Product (5.NBT.B.7) **MP1, MP2, MP6, MP8** **Mathematical Practices Focus (Students)** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. **NCTM Effective Teaching Practices** 1. Establish mathematics goals to focus learning. 2. Implement tasks that promote reasoning and problem solving. 3. Build procedural fluency from conceptual understanding. 4. Pose purposeful questions. 5. Use and connect mathematics representations 6. Facilitate meaningful mathematics discourse. 7. Elicit and use evidence of student thinking. 8. Support productive struggle in learning mathematics. **Literary Math Focus** 1. Use multiple reading strategies. 2. Understand and use correct mathematical vocabulary. 3. Discuss and articulate mathematical ideas.

	I *can* explain the standard algorithm for multi-digit decimal multiplication. I *can* use the standard algorithm to multiply multi-digit whole numbers/decimals with ease. I *can* use the standard algorithm to multiply multi-digit decimals with ease. I can place the decimal point in decimal multiplication. I can multiply decimals with zeros in the product. I can add to models (e.g. block drawings and base ten blocks) for adding and multiplying numbers with decimals. I can break down or take away from models (e.g. block drawings and base ten blocks) for subtracting and dividing with decimals. I can remember and use the properties of addition, subtraction, multiplication, and division to solve problems with decimals. I can turn my concrete model into a written mathematical problem using the standard operations. I can explain how to join and separate numbers to the hundredths. I know how adding the same number over and over is related with a multiplication strategy. I know how taking away the same number over and over is connected to a division strategy. I can find patterns in products when multiplying by powers of 10. I can use expanded form and place value to multiply a decimal and a whole number. I can solve problems using the strategy draw a diagram to multiply money. I can relate the concrete model I used to solve problems into mathematical representations using numbers and symbols. I can explain the strategy I used to solve the problem. I can justify my reasoning.	4. Write mathematical arguments. **Graham Fletcher- Progression of Multiplication Video** **EngageNY** **Module 2** **Topic B: The Standard Algorithm for Multi-Digit Whole Number Multiplication** **Lesson 3** **Lesson 4** **Lesson 5** **Lesson 6-** **Lesson 7** **Lesson 8** **Lesson 9** Module 2 **Topic C: Decimal Multi-Digit Multiplication** **Lesson 10** **Lesson 11** **Lesson 12** **Module 2** **Topic E: Multiplying Decimals** **Lesson 11** **Lesson 12** **Module 2** **Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication** **Lesson 13** **Lesson 14** **Lesson 15** **Instructional Tasks**: **Mathematics Tasks Arcs** **Decimal Operations: Multiplication and Division (5.NBT.5, 5.NBT.7, 5.NBT.6)**

	I can use concrete materials to model addition, subtraction, multiplication, and division problems. I can create models that explain strategies for solving addition, subtraction, multiplication, and division problems. I can write a mathematical representation of the problem and solve it using the model I used to solve the problem.	**Instructional Tasks:** **https://www.illustrativemathematics.org/5** **5.NBT.B. Perform operations with multi-digit whole numbers and with decimals to hundredths.** **5.NBT.B.5. Elmer's Multiplication Error** **gfletchy 3-Act Tasks** 5.NBT.B.6-7 Tomato-Tomato, Gassed, Sugar Cubes **Vocabulary:** factors, product, partial products, multiply, multiples, exponent, base, squared, cubed, powers of 10, exponential notation, expanded form, standard form **Tools:** grid paper ***More Optional Activities are below:*** **Journal Topics:** -Journal- The Write Way Go Math p. 232B -Explain how multiplication is related to both addition and division. -Compare multiplying whole numbers and decimals. Show your response on a Venn Diagram. -Explain how to multiply 345 x 36 to someone who doesn't know how to multiply it. What strategies could you use? Explain which strategies work best for you. -Reflections on new learning ….How did I do on the learning? What could I do better on in the lesson? **Songs**: "Rhymes and Times" (Audio) **Literature Connection**: The Lion's Share by Matthew McElligott **Slideshow Lesson**- Multiplication **Links:** **Study Jams- Math- Multiplication and Division- Multiples**

		BrainPop-Math-Multiplication 901 Math Videos

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Weeks 8-9 (5.NBT.B.6 and 5.NBT.B.7) Division		
5.NBT.B **Numbers and Operations in Base Ten** **B. Perform operations with multi-digit whole numbers and with decimals to hundredths.** **5.NBT.B.6** **Find whole-number quotients and remainders 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.B.7 Add, subtract, multiply, and divide decimals to the hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationships between operations; assess the reasonableness of answers using estimation**	**Enduring Understandings** 1. Division has a variety of applications and is a necessary operation. 2. Computational fluency includes understanding not only the meaning bu also the appropriate use of numerical operations. 3. The magnitude of numbers affects the outcome of operations on them. 4. Context is critical when using estimation. **Essential Questions** 1. (1-8) How is multiplication used to solve a division problem? 2. (1-9) How can you use the strategy Solve a Simpler Problem to help you solve a division problem? 3. (2-1) How can you tell where to place the first digit of a quotient without dividing? 4. (2-2) How do you solve and check division problems? 5. (2-3) How can you use base-ten blocks to model and understand division of whole numbers?	***INSTRUCTIONAL FOCUS DOCUMENT FOR TENNESSEE** **Go Math** 1-8, Relate Multiplication to Division (5.NBT.B.6) **MP1, MP3, MP6, MP7** 1-9, Problem Solving-Multiplication and Division (5.NBT.B.6) **MP1, MP2, MP3** 2-1, Place the First Digit (5.NBT.B.6) **MP1, MP4, MP6** 2-2, Divide by 1-Digit Divisors (5.NBT.B.6) **MP1, MP2, MP8** 2-3, Investigate-Division with 2-Digit Divisors (5.NBT.B.6) **MP1, MP3, MP4, MP6** 2-4, Partial Quotients (5.NBT.B.6) **MP1, MP3, MP8** 2-5, Estimate with 2-Digit Divisors (5.NBT.B.6) **MP1, MP2, MP3** 2-6, Divide by 2-Digit Divisors (5.NBT.B.6) **MP1, MP2, MP8** 2-7, Interpret the Remainder (5.NF.B.3) **MP2, MP3, MP4** 2-8, Adjust Quotients (5.NBT.B.6) **MP1, MP6, MP7** 2-9 Problem Solving- Division (5.NBT.B.6)

strategies. (Limit division problems so that either the dividend or divisor is a whole number.)	6. (2-4) How can you use partial quotients to divide by 2-digit divisors? 7. (2-5) How can you use compatible numbers to estimate quotients? 8. (2-6) How can you divide by 2-digit divisors? 9. (2-7) When solving a division problem, when do you write the remainder as a fraction? 10. (2-8) How can you adjust the quotient if your estimate is too high or too low? 11. (2-9) How can the strategy draw a diagram help you solve a division problem? 12. (5-1) How can patterns help you place the decimal point in a quotient? 13. (5-2) How can you use a model to divide a decimal by a whole number? 14. (5-3) How can you estimate decimal quotients? 15. (5-4) How can you divide decimals by whole numbers? 16. (5-5) How can you use a model to divide by a decimal? 17. (5-6) How can you place the decimal point in the quotient? 18. (5-7) When do you write a zero in the dividend to find a quotient? 19. (5-8) How do you use the strategy work backward to solve multistep decimal problems? **<u>Learning Targets</u>** I *can* divide 3-4 digit dividends by a one-digit and a two-digit divisor. I can place the first digit in th quotient by estimating or using place value. I *can* divide with a whole number or decimal dividend. I can solve division problems and write the remainder	**MP1, MP3, MP4** 5-1, Algebra-Division Patterns with Decimals (5.NBT.A.2) **MP5, MP6, MP7** 5-2, Investigate-Divide Decimals by Whole Numbers (5.NBT.B.7) **MP1, MP2, MP5, MP6** 5-3, Estimate Quotients (5.NBT.B.7) **MP1, MP2, MP4, MP6** 5-4, Division of Decimals by Whole Numbers (5.NBT.B.7) **MP1, MP2, MP6** 5-5, Investigate-Decimal Division (5.NBT.B.7) **MP2, MP4, MP5, MP6** 5-6, Divide Decimals (5.NBT.B.7) **MP1, MP2, MP8** 5-7, Write Zeros in the Dividend (5.NBT.B.7) **MP2, MP3, MP5, MP6, MP8** 5-8 Problem Solving- Decimal Operations (5.NBT.B.7) **MP2, MP6, MP7** **Mathematical Practices Focus (Students)** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. **NCTM Effective Teaching Practices** 1. Establish mathematics goals to focus learning. 2. Implement tasks that promote reasoning and problem solving. 3. Build procedural fluency from conceptual understanding. 4. Pose purposeful questions. 5. Use and connect mathematics representations 6. Facilitate meaningful mathematics discourse.

	as a fraction. I *can* explain my chosen strategy. I *can* select a reasonable solution to a real-world division problem in which a remainder must be considered. I *can* use divisibility rules to factor numbers. I *can* explain and illustrate strategies using concrete models or drawings when dividing decimals to hundredths. I *can* select a reasonable solution to a real-world division problem in which a remainder must be considered. I can add to models (e.g. block drawings and base ten blocks) for adding and multiplying numbers with decimals. I can break down or take away from models (e.g. block drawings and base ten blocks) for subtracting and dividing with decimals. I can remember and use the properties of addition, subtraction, multiplication, and division to solve problems with decimals. I can turn my concrete model into a written mathematical problem using the standard operations. I can explain how to join and separate numbers to the hundredths. I know how adding the same number over and over is related with a multiplication strategy. I know how taking away the same number over and over is connected to a division strategy. I can relate the concrete model I used to solve problems into mathematical representations using numbers and symbols. I can explain the strategy I used to solve the problem. I can justify my reasoning. I can use concrete materials to model addition, subtraction, multiplication, and division problems. I can create models that explain strategies for solving addition, subtraction, multiplication, and division problems.	7. Elicit and use evidence of student thinking. 8. Support productive struggle in learning mathematics. **Literary Math Focus** 1. Use multiple reading strategies. 2. Understand and use correct mathematical vocabulary. 3. Discuss and articulate mathematical ideas. 4. Write mathematical arguments. Graham Fletcher- Progression of Division Videos **EngageNY** **Module 2** **Topic E- Mental Strategies for Multi-Digit Whole Number Division** **Module 2** **Topic F: Partial Quotients and Multi-Digit Whole Number Division** **Lesson 13** **Lesson 14** **Lesson 15** **Lesson 16** **Module 2** **Topic G- Partial Quotients and Muiti-Digit Decimal Division** **Module 2** **Topic H- Measurement Word Problems with Multi-Digit Division** **Mathematics Tasks Arcs** **Decimal Operations: Multiplication and Division (5.NBT.5, 5.NBT.7, 5.NBT.6)**

	I can write a mathematical representation of the problem and solve it using the model I used to solve the problem.	**Instructional Tasks:** **5.NBT.B.6. Find whole-number quotients of whole numbers with up to four-digit divid5** Illustrative Math **5.NBT.B.6** Minutes and Days **5.NBT.B.7.** ○ The Value of Education ○ What is 23 ÷ 5? **gfletchy 3-Act Tasks** 5.NBT.B.6-7 Tomato-Tomato, Gassed, Sugar Cubes, Got Cubed **Vocabulary:** division, dividend, divisor, quotient, divisible, remainder, rounding, truncating, decimal point **Tools:** grid paper ***More Optional Activities are below:*** **Journal Topics:** -Journal- The Write Way Go Math p.290B -Explain how to divide 583 divided by 7 to someone who doesn't know how to divide it. What strategies could you use? Explain which strategies work best for you. -Explain how division is related multiplication. -Compare dividing whole numbers and decimals. -Reflections on new learning (How did I do on the learning? What could I do better on in the lesson?

		Song- "Long Division" (Audio) "Up on the Housetop" (Audio) "Dividing Decimals" by Gigi Shadid **Literature Connection**: The Doorbell Rang by Pat Hutchins **Slideshow Lesson**- Long Division **Slideshow Lesson**- Considering the Remainder **Links:** **Study Jams- Math- Multi and Div- Relate Multiplication and Division** **Study Jams**- Math- Multi and Div- Divisibility Rules **Study Jams-Math-Multi and Div- Double Digit Division** **BrainPop**-Math-Division 901 Math Videos

Additional Lessons-
Engage NY Modules

K-5 Math Teaching Resources-3rd grade Journals
http://www.k-5mathteachingresources.com/5th-grade-number-activities.html

UnPacking the Standards
http://www.madison-schools.com/Page/111