MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
FIFTH GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 2

Qtr. 2: Weeks 1-3
October 10 – October 27 (14 days)
Grade 5 Unit 4 Operations with Whole Number and Decimals

UNIT OVERVIEW: OPERATION WITH WHOLE NUMBERS AND DECIMALS
In this unit students expand their understanding of multiplying and dividing whole numbers and begin their study of multiplying and dividing decimals

ESSENTIAL QUESTIONS:	**KEY VOCABULARY:**
How do we solve problems with whole numbers and decimals? How do the rules of multiplying whole numbers relate to multiplying decimals? What are some patterns that occur when multiplying and dividing decimals?	multiplication/multiply, division/divide, decimal, decimal point, tenths, hundredths, products, quotients, dividends, rectangular arrays, area models, addition/add, subtraction/subtract, reasoning

Basic Fact Assessment: Division divisors (1-9) & quotients (1-9)

Standards/Objectives

Mastery Standards	**Standards Clarification**
[5-NBT.5] Fluently multiply multi-digit whole numbers using the standard algorithm. • This standard requires students fluently compute products of whole numbers using the standard algorithm.	**[5-NBT.5]** Multiply multi-digit numbers **using the standard algorithm.**
[5-NBT.7] Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method, and explain the reasoning used. • This standard requires students to extend the models and strategies they developed for whole numbers in grades 1-4 to decimal values.	**[5-NBT.7]** Multiply & divide decimals to hundredths using strategies. (connect to +/-)
Opportunity for Depth Standards	**Standards Clarification**
[5-NBT.6] Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**[5-NBT.6]** Whole number quotients up to 4x2 using strategies & models.

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Resources for Quarter 2 Unit 4			
Engage New York Module 1 Topics E & F – (NBT7) https://www.engageny.org/resource/grade-5-mathematics-module-1 **Engage New York Module 2 Topics C, D, G – (NBT5, NBT6, NBT7)** https://www.engageny.org/resource/grade-5-mathematics-module-2	**Georgia Standards Unit 1 – (NBT5, NBT6)** https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-1.pdf **Unit 3 – (NBT7)** https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-3.pdf	**North Carolina – (NBT5, NBT6, NBT7)** http://3-5cctask.ncdpi.wikispaces.net/5.NBT.5-5.NBT.7	**Math In Focus Chapter 9 Lessons 1-3 – (NBT5, NBT6, NBT7)**
Xtra Math https://xtramath.org/#/home/index *Free, individualized web based program that helps to build student fluency.*			
Focus Standards for Mathematical Practice			
MP.2 Represent a problem with symbols			
MP.6 Recognize the need for precision in response to a problem.			
MP.7 Look for and make use of structure.			

Qtr. 2: Weeks 4-6
October 30 – November 17 (14 days)
Grade 5 Unit 5: Operations with Fractions & Algebraic Expressions

UNIT OVERVIEW: OPERATIONS WITH FRACTIONS & ALGEBRAIC EXPRESSIONS
In this unit students will add and subtract fractions and mixed numbers by writing equivalent fractions, solve word problems involving fractions, and write and evaluate algebraic expressions.

ESSENTIAL QUESTIONS:	**KEY VOCABULARY:**
How can fractions with different denominators be added together? How can we tell if a fraction is greater than, less than, or equal to one? What strategies can we use for adding and subtracting fractions with different denominators? How can benchmark fractions help to estimate fractions?	fraction, equivalent, addition/add, sum, subtraction/subtract, difference, unlike denominator, numerator, benchmark fraction, estimate, reasonableness, mixed numbers, fraction greater than 1

Basic Fact Assessment: Division divisors (1-9) & quotients (1-9)

Standards/Objectives

Mastery Standards	**Standards Clarification**
[5-NF1] 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. • This standard builds on the work in fourth grade where students add fractions with like denominators. In fifth grade, the example provided in the standard has students find a common denominator by finding the product of both denominators. For 1/3 AND 1/6, a common denominator is 6. This process should be introduced using visual fraction models (area models, number lines, etc.) to build understanding before moving into the standard algorithm.	**[5-NF1]** Add/sub fractions & mixed # w/ unlike denominators by using equivalent fractions to get same denominator.

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Opportunity for Depth Standards	Standards Clarification
[5-NF.2] Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally, and assess the reasonableness of answers. • For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.	**[5-NF.2]** Word problems +/- fractions using models, equations, benchmarks, estimate mentally assess reasonableness of answer

Resources for Quarter 2 Unit 5			
Engage New York Module 3 Topics A, B, C, D – (NF1, NF2) **https://www.engageny.org/resource/grade-5-mathematics-module-3** **FAL: *Pizza With Friends* (NF1, NF2)** **http://education.ky.gov/curriculum/conpro/Math/Documents/5_KDE_Number_and_Operations_Pizza_with_Friends_Grade_5.pdf**	**Georgia Standards Unit 4 – (NF1, NF2)** **https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-4.pdf** **FAL: *Pizza With Friends* (NF1, NF2)** **http://education.ky.gov/curriculum/conpro/Math/Documents/5_KDE_Number_and_Operations_Pizza_with_Friends_Grade_5.pdf**	**North Carolina – (NF1, NF2)** **http://3-5cctask.ncdpi.wikispaces.net/5.NF.1-5.NF.2** **FAL: *Pizza With Friends* (NF1, NF2)** **http://education.ky.gov/curriculum/conpro/Math/Documents/5_KDE_Number_and_Operations_Pizza_with_Friends_Grade_5.pdf**	**Math In Focus – N/A** ***Standards are not addressed in 5th grade text.*** **FAL: *Pizza With Friends* (NF1, NF2)** **http://education.ky.gov/curriculum/conpro/Math/Documents/5_KDE_Number_and_Operations_Pizza_with_Friends_Grade_5.pdf**
Xtra Math https://xtramath.org/#/home/index *Free, individualized web based program that helps to build student fluency.*			

Focus Standards for Mathematical Practice
MP.1 Analyze and explain the meaning of the problem
MP.8 Reason about varied strategies and methods for solving problems

Qtr. 2: Weeks 7-9
November 27 – December 15 (15 days)
Grade 5 Unit 6: Fractions & Geometry

UNIT OVERVIEW: FRACTIONS AND GEOMETRY
In the unit students will interpret fractions as division and classify two-dimensional shapes based on attributes.

ESSENTIAL QUESTIONS:	**KEY VOCABULARY:**
What are the properties of 2-D figures? How does a fraction represent a division problem?	fraction, numerator, denominator, operations, division/divide, mixed numbers, quotient, partition, equal parts, equivalent, factor, unit fraction, attribute, category, subcategory, hierarchy, two dimensional, polygon, rhombus/rhombi, rectangle, square, triangle, quadrilateral, pentagon, hexagon, cube, trapezoid, kite

Basic Fact Assessment: Division divisors (1-9) & quotients (1-9)

Standards/Objectives

Supporting Standards	**Standards Clarification**
[5-NF.3] Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. • This standard calls for students to extend their work of partitioning a number line from third and fourth grade. Students need ample experiences to explore the concept that a fraction is a way to represent the division of two quantities. Students are expected to demonstrate their understanding using concrete materials, drawing models, and explaining their thinking when working with fractions in multiple contexts. They read 3 as "three fifths" and after many experiences 5 with sharing problems, learn that can also be interpreted as "3 divided by 5."	**[5-NF.3]** Interpret fraction as division, solve word problems w/ division of whole numbers w/ fractions & [mixed # as answer.
Opportunity for Depth Standards	**Standards Clarification**
[5-OA.1] Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	**[5-OA.1]**Evaluate expressions w/ parentheses, brackets, braces.
[5-OA.2] Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	**[5-OA.2]**Write expressions connected to calculations, interpret expressions w/o evaluating.

Additional	Standards Clarification
[5-G.3] Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category. • Example: All rectangles have four right angles, and squares are rectangles, so all squares have four right angles. • This standard calls for students to reason about the attributes (properties) of shapes. Student should have experiences discussing the property of shapes and explaining their reasoning.	**[5-G.3]** 2D figure attributes w/ subcategories (i.e. all rectangles have 4 sides so squares are rectangles.)
[5-G.4] Classify two-dimensional figures in a hierarchy based on properties. Properties of figure may include: • Properties of sides—parallel, perpendicular, congruent, number of sides • Properties of angles—types of angles, congruent	**[5-G.4]** Classify 2D figures based on properties.

Resources for Quarter 2 Unit 6			
Engage New York Module 4 Topics B – (NF3) **https://www.engageny.org/resource/grade-5-mathematics-module-4** **Module 5 Topic D – (G3, G4)** **https://www.engageny.org/resource/grade-5-mathematics-module-5**	**Georgia Standards Unit 1 - (OA1, OA2)** **https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-1.pdf** **Unit 5 – (G3, G4)** **https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-5.pdf**	**North Carolina – (NF3, OA1, OA2, G3, G4)** **http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7** **http://3-5cctask.ncdpi.wikispaces.net/5.OA.1-5.OA.2** **http://3-5cctask.ncdpi.wikispaces.net/5.G.3-5.G.4**	**Math in Focus** **Chapter 3 Lesson 3 – (NF3)**
Xtra Math https://xtramath.org/#/home/index *Free, individualized web based program that helps to build student fluency.*			

Focus Standards for Mathematical Practice
MP.6 Recognize the need for precision in response to a problem.
MP.7 Look for and make use of structure.
MP.8 Reason about varied strategies and methods for solving problems.