Fifth Grade Math Framework – 1st Nine Weeks 2017-2018

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| **Quarter – 1st****Week - 1 Dates – 8/7/2017****Learning Targets****Unit – 1 Whole Numbers*** I can use parentheses and brackets in expressions.
* I can write expressions I hear using mathematic symbols and the order of operations.
* I can multiply multi-digit whole numbers.
* I can divide four-digit dividends by two-digit divisors.
* I can illustrate and explain a division problem using equations, arrays and/or models.

**Set up Math journal:** Table of contents; Order of operations; parentheses, Brackets, and Braces; Expressions | **AKS****Write and interpret numerical expressions****1.OA.1** use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols**2.OA.2** write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them (e.g., express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7)) and recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product)**Perform operations with multi-digit whole numbers****9.NBT.5** multiply multi-digit whole numbers fluently using the standard algorithm (or other strategies demonstrating understanding of multiplication) up to a 3 digit by a 2 digit factor **10.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 or concrete models (e.g., rectangular arrays and/or area models) | **Vocabulary**AlgorithmDistributive propertyEquationExponentExpressionOrder of operationsVariable | **Textbook Resources**HOS:[Lesson 1: Order of Operations](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_OA1.pdf)My Math - Chapter 7 lessons 1-3Think Math - 13.5 and 13.6 |
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| **Teacher Resources:** [IM: Watch Out for Parentheses 1](https://www.illustrativemathematics.org/content-standards/5/OA/A/1/tasks/555), IM: [Using Operations & Parentheses](https://www.illustrativemathematics.org/content-standards/5/OA/A/1/tasks/1596)**Technology Resources:** **Performance Based Tasks:** Ga Frameworks [Unit 1](https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-1.pdf): Order of Operations**Student Practice:** [**Four Fours Challenge**](http://www.nzmaths.co.nz/resource/four-fours-challenge)[**Order of Operations Bingo**](http://illuminations.nctm.org/LessonDetail.aspx?ID=L730)[**Bowling for Numbers**](http://www.illustrativemathematics.org/illustrations/969)**Performance Based Task:** [**Comparing Products**](http://www.illustrativemathematics.org/illustrations/139)**Student Practice: Ambleweb** [**Function Machine**](http://teams.lacoe.edu/documentation/classrooms/amy/algebra/3-4/activities/functionmachine/functionmachine3_4.html)**Instructional Support:*** Begin with expressions that have two different operations and no grouping symbols (multiplication or division combined with addition or subtraction). Student should realize that without using conventions for order of operations, different values could be obtained from the same expression. **Example:** 3 + 5 x 2

**Correct value:** 3 + (5 x 2) = 13 **Incorrect value:** (3 + 5) x 2 = 16* After experiences with multiple operations, introduce correct use of grouping symbols. Parentheses must be used first. If additional grouping symbols are required, brackets would be used next, followed by the use of braces if a third set is needed. When evaluating these expressions, operations inside the parentheses must be solved first, followed by operations inside braces and finally, operations inside brackets.

**Example**: 2 x ( 17 – 4) + (5 + 13) ÷ 3 **Correct value:** 2 x 13 + 18 ÷ 3 = 26 + 6 = 32* An additional instructional strategy is to present an equation and have students place grouping symbols to make the equation true.

**Example:** 3 x 125 ÷ 25 + 7 = 22**Correct grouping symbols:** [3 x (125 ÷ 25)] + 7 = 22 | **Assessment**Check all that apply for the week:Fact Fluency – YesTOTD – Quick Check – Unit Common Assessment # \_\_\_\_District Assessment - Yes | **Calendar/****Number Talks**Establish proceduresIntroduce Patterns, Daily depositor, preview geometry | **Manipulatives**Base Ten BlocksColor Tiles |
| **Anchor Charts**Order of Operations | **Homework**Week 1 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 1st****Week - 2 Dates – 8/14/2017****Learning Targets****Unit – 1 Whole Numbers*** I can use parentheses and brackets in expressions.
* I can write expressions I hear using mathematic symbols and the order of operations.
* I can multiply multi-digit whole numbers.
* I can divide four-digit dividends by two-digit divisors.
* I can illustrate and explain a division problem using equations, arrays and/or models.
 | **AKS****Write and interpret numerical expressions****1.OA.1** use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols**2.OA.2** write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them (e.g., express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7)) and recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product)**Perform operations with multi-digit whole numbers****9.NBT.5** multiply multi-digit whole numbers fluently using the standard algorithm (or other strategies demonstrating understanding of multiplication) up to a 3 digit by a 2 digit factor **10.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 or concrete models (e.g., rectangular arrays and/or area models) | **Vocabulary**AlgorithmDistributive propertyEquationExponentExpressionOrder of operationsVariable | **Textbook Resources**HOS:[Lesson 2: Use Parentheses and Brackets](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_OA2.pdf)My Math - Chapter 7 lessons 1-3Think Math - 13.5 and 13.6 |
| **Teacher Resources:****Technology Resources****Student Practice:** [**Four Fours Challenge**](http://www.nzmaths.co.nz/resource/four-fours-challenge)[**Order of Operations Bingo**](http://illuminations.nctm.org/LessonDetail.aspx?ID=L730)[**Bowling for Numbers**](http://www.illustrativemathematics.org/illustrations/969)**Performance Based Task:** [**Comparing Products**](http://www.illustrativemathematics.org/illustrations/139)**Student Practice:** [**Ambleweb Function Machine**](http://www.amblesideprimary.com/ambleweb/mentalmaths/functionmachines.html)[**Function Machine**](http://teams.lacoe.edu/documentation/classrooms/amy/algebra/3-4/activities/functionmachine/functionmachine3_4.html) [**One and Two Step Addition and Subtraction (up to 100) Word Problems**](http://www.mathworksheetsland.com/2/1stepwordprobs.html)**Instrctional Support:*** Concrete: Student will be able to use color tiles or base 10 blocks to represent an expression. Show “double five and then subtract three.”
* Representational: Student will be able to construct pictures to represent an expression.

Show “divide 132 by 12, and then subtract 8.”* Abstract: Students can write numerical expressions from calculations given in words, and write verbal descriptions of numerical expressions. Students demonstrate an understanding of the relationships between the numbers and operations.

Example: Describe how the expression 5(10 x 10) relates to 10 x 10. Student would state that the first expression is equal to five groups of the second expression | **Assessment**Check all that apply for the week:Fact Fluency – YESQuick Check – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples**Anchor Charts**Order of Operations | **Manipulatives**Base Ten BlocksColor Tiles**Homework**Week 2 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 1st****Week - 3 Dates – 8/21/2017****Learning Targets****Unit – 1 Whole Numbers*** I can use parentheses and brackets in expressions.
* I can write expressions I hear using mathematic symbols and the order of operations.
* I can multiply multi-digit whole numbers.
* I can divide four-digit dividends by two-digit divisors.
* I can illustrate and explain a division problem using equations, arrays and/or models.
 | **AKS****Write and interpret numerical expressions****1.OA.1** use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols**2.OA.2** write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them (e.g., express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7)) and recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product)**Perform operations with multi-digit whole numbers****9.NBT.5** multiply multi-digit whole numbers fluently using the standard algorithm (or other strategies demonstrating understanding of multiplication) up to a 3 digit by a 2 digit factor **10.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 or concrete models (e.g., rectangular arrays and/or area models) | **Vocabulary**AlgorithmDistributive propertyEquationExponentExpressionOrder of operationsVariable | **Textbook Resources**Applied Math[5-21 Multiply Multi-Digit Whole Numbers](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6833/cad43441966d2324b3e1148fc897eec6)My Math – Chapter 2 lesson 6-10Think Math – 5.2, 5.3, 5.5 |
| **Teacher Resources:****Technology Resources****Instructional Support:** [**Learnzillion: Use area model for multiplication**](http://learnzillion.com/lessons/4389-use-area-models-for-multiplication%20%20%20%20%20%20)[**Learnzillion: Use partial products for multiplication**](http://learnzillion.com/lessons/4390-use-partial-products-for-multiplication)**Instructional SupportConcrete**: Connect to previous grade levels’ understanding of multiplying a multi-digit factor by single digit factor. Example: Students use base-ten blocks to model: 164 x 2. Students make 2 groups of 164 and then counts/adds blocks (composing tens to make a hundred) to find the product, 328. Students represent multiplication as repeated addition by adding 164 two times**Semi-Concrete:** Students use base-ten blocks to multiply 164 x 12, recording all partial products created by multiplying each digit. Guide students’ understanding of a digit’s value as determined by its place in a number.* Multiply by 2 ones: 2 ones x 4 ones=8 ones; 2 ones x 6 tens=12 tens or 1 hundred and 2 tens; 2 ones x 1 hundred=2 hundreds
* Multiply by 1 ten: 1 ten x 4 ones=4 tens or 40; 1 ten x 6 tens=60 tens or 6 hundreds; 1 ten x 1 hundred=10 hundreds or 1 thousand

Students combine partial products by adding partial products to achieve final product, 1968. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples**Anchor Charts**Order of OperationsStandard Algorithm for MultiplicationPartial ProductsArea Model for Multiplication | **Manipulatives**Base Ten BlocksColor Tiles**Homework**Week 3 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 1st****Week - 4 Dates – 8/28/2017****Learning Targets****Unit – 1 Whole Numbers*** I can use parentheses and brackets in expressions.
* I can write expressions I hear using mathematic symbols and the order of operations.
* I can multiply multi-digit whole numbers.
* I can divide four-digit dividends by two-digit divisors.
* I can illustrate and explain a division problem using equations, arrays and/or models.
 | **AKS****Write and interpret numerical expressions****1.OA.1** use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols**2.OA.2** write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them (e.g., express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7)) and recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product)**Perform operations with multi-digit whole numbers****9.NBT.5** multiply multi-digit whole numbers fluently using the standard algorithm (or other strategies demonstrating understanding of multiplication) up to a 3 digit by a 2 digit factor **10.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 or concrete models (e.g., rectangular arrays and/or area models) | **Vocabulary**AlgorithmDistributive propertyEquationExponentExpressionOrder of operationsVariableQuotientDividendDivisorRemainder | **Textbook Resources**Applied Math:[5-22 Divide Multi-Digit Whole Numbers](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6834/cad43441966d2324b3e1148fc897eec6)My Math - Chapter 7 lessons 1-3Think Math - 13.5 and 13.6 |
| **Teacher Resources:****Instructional Support:** [**Learnzillion: use an area model for division of 4-digit by 2-digit numbers**](http://learnzillion.com/lessons/552-divide-4digit-dividends-by-2digit-divisors-by-using-an-area-model) [**Learnzillion: divide a 4-digit by 2-digit number using a rectangular array**](http://learnzillion.com/lessons/553-divide-4digit-dividends-by-2digit-divisors-by-using-a-rectangular-array)**Performance Based Task:** [**Minutes and Days**](http://www.illustrativemathematics.org/illustrations/878)**Student Practice:** [**Division word problems**](http://www.syvum.com/kwps2/)**Instructional Support:****Teacher notes:** **Concrete:** Concrete experiences should build upon what was previously learned about division in third and fourth grades, that is, how to form equal shares, equal groups or share equally among. If needed, base-ten blocks could be used to model division by a one-digit divisor first (165 ÷ 5 = 31) and then the same group divided by a two-digit divisor (165 ÷ 15 = 11). Attention should be given to why and how units are decomposed when forming equal groups.**Semi-Concrete:** Given a story problem, students construct pictures/models to solve the division problem, including place value models, arrays (relating division/multiplication), or drawing illustrations. Students choose an efficient model/strategy to represent and solve the problem.**Semi-Abstract**: Students use area models to divide 9984 ÷ 64 while keeping track of how much of 9984 is left to divide | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples, decimals**Anchor Charts**Order of OperationsMultiplying Whole NumbersDividing Whole Numbers | **Manipulatives**Base Ten BlocksArrays100 Charts**Homework**Week 4 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 1st****Week - 5 Dates – 9/4/2017****Learning Targets****Unit – 1 Whole Numbers*** I can use parentheses and brackets in expressions.
* I can write expressions I hear using mathematic symbols and the order of operations.
* I can multiply multi-digit whole numbers.
* I can divide four-digit dividends by two-digit divisors.
* I can illustrate and explain a division problem using equations, arrays and/or models.
 | **AKS****Write and interpret numerical expressions****1.OA.1** use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols**2.OA.2** write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them (e.g., express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7)) and recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product)**Perform operations with multi-digit whole numbers****9.NBT.5** multiply multi-digit whole numbers fluently using the standard algorithm (or other strategies demonstrating understanding of multiplication) up to a 3 digit by a 2 digit factor **10.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 or concrete models (e.g., rectangular arrays and/or area models) | **Vocabulary**AlgorithmDistributive propertyEquationExponentExpressionOrder of operationsVariableQuotientDividendDivisorRemainder | **Textbook Resources**Applied Math:[5-23 Divide Multi-Digit Whole Numbers](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6835/cad43441966d2324b3e1148fc897eec6)My Math – Chapter 3 and 4Think Math – Chapter 8 |
| **Teacher Resources:****Instructional Support:** [**Learnzillion: use an area model for division of 4-digit by 2-digit numbers**](http://learnzillion.com/lessons/552-divide-4digit-dividends-by-2digit-divisors-by-using-an-area-model) [**Learnzillion: divide a 4-digit by 2-digit number using a rectangular array**](http://learnzillion.com/lessons/553-divide-4digit-dividends-by-2digit-divisors-by-using-a-rectangular-array)**Performance Based Task:** [**Minutes and Days**](http://www.illustrativemathematics.org/illustrations/878)**Student Practice:** [**Division word problems**](http://www.syvum.com/kwps2/)**Instructional Support:****Teacher notes: Increasing Rigor*** If the quotient is 34, what could a possible dividend and divisor be? (use either a three- or four-digit dividend)
* How do you know that 34 is not the quotient of 1,216 ÷ 4?
* Find a number that when divided by either 2, 3, or 5 has a remainder of 1.
* List three numbers that when divided by 5 each has a remainder of 1.
* Using the digits 4, 9, 7, 1 and 5, create a division sentence with a two-digit divisor and the greatest possible quotient.
* Write a division problem that has a four-digit dividend and a one-digit divisor with a quotient that is even.
* What is the relationship between multiplication and division? Provide examples to show your thinking.
* Use two different division strategies to solve 9,754 ÷ 5.
* How does understanding place value help when solving 439 ÷14 with the partial quotient strategy? Explain by using examples
 | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment # YES - [5th Grade: Unit 1 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade_Unit%201.docx?_&d2lSessionVal=xc9YcDMSjYyr36kFHf2WsD9cT&ou=58323)District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples, decimals**Anchor Charts**Order of OperationsMultiplying Whole NumbersDividing Whole Numbers | **Manipulatives**Base Ten BlocksArrays100 Charts**Homework**Week 5 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 1st****Week - 6 Dates – 9/11/2017****Learning Targets****Unit – 2 Decimals*** I can understand and explain the value of digits.
* I can explain patterns when multiplying a number by powers of 10.
* I can explain patterns when a decimal is multiplied or divided by a power of 10.
* I can read, write, and compare decimals to thousandths.
* I can use place value understanding to round decimals to any place.
* I can add, subtract, multiply, and divide decimals to hundredths. I can use concrete models or drawings to explain the method used.
 | **AKS****Understand the place value system****4.NBT.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.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**6. NBT.3\_a.** read, write, order, and compare place value of decimals to thousandths using base ten numerals, number names, and expanded form (e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000))**7.NBT.3\_b.** compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons**8.NBT.4** use place value understanding to round decimals to any place**11.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 | **Vocabulary**

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| Decimal Decimal pointFraction |
| Place value |
| Rounding |

 | **Textbook Resources****HOS:**[Lesson 1: Decimals](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NBT1.pdf)[Lesson 2: Comparing Decimals](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NBT2.pdf)**McGraw Hill/My Math****Chapter 5**Think Math – Chapter 7, Lessons 7-10 |
| **Teacher Resources:****Technology Resources****Instructional Support:** [**Learnzillion: determine value of digit in thousandths place**](http://learnzillion.com/lessons/2519-determine-the-value-of-a-digit-in-the-thousandths-place)[**Learnzillion: understand that place value increases ten times with each shift of the decimal to the left**](http://learnzillion.com/lessons/2389-understand-that-place-value-increases-ten-times-with-each-shift-to-the-left-in-a-multidigit-number)[**Learnzillion: use number lines to show increases in place value with each shift of the decimal to the left**](http://learnzillion.com/lessons/2642-use-number-lines-to-show-increases-in-place-value-with-each-shift-to-the-left-in-a-multidigit-number)[**Learnzillion: use base ten blocks to understand shift in place value**](http://learnzillion.com/lessons/2599-use-base-ten-blocks-to-understand-how-place-value-decreases-with-each-shift-to-the-right-in-a-multidigit-number)[**Learnzillion: use number lines to show decreases in place value with every shift of the decimal to the right**](http://learnzillion.com/lessons/2675-use-number-lines-to-show-decreases-in-place-value-with-every-shift-to-the-right-in-a-multidigit-number)[**Learnzillion: multiplying and dividing by ten to shift place value**](http://learnzillion.com/lessons/2676-recognize-place-value-relationships-by-multiplying-and-dividing-by-ten)**Instructional Resources:****Teacher notes: Concrete:** Using base-ten blocks and place value chart, student creates models to name and compare teacher provided decimal number pairs. Review how base-ten blocks can be used to represent whole number values and/or decimals. To represent decimal values with base-ten blocks, large block cubes represent whole numbers, flats represent tenths, longs represent hundredths and small cubes represent thousandths. Students begin by creating and comparing model pairs using only tenths, then hundredths, followed by number pairs showing thousandths. Lastly, students create model pairs of numbers to include whole number and decimal values to thousandths. Number pairs should include decimals that give students the opportunity to discern which number is greater than/less than as well as number pairs that show equivalence, such as .8 and .800.  | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples, decimals**Anchor Charts**Decimal Place ValuePowers of 10Add, Subtract, Multiply, Divide Decimals | **Manipulatives**Base Ten BlocksNumber linesArrays100 Charts**Homework**Week 6 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 1st****Week - 7 Dates – 9/18/2017****Learning Targets****Unit – 2 Decimals*** I can understand and explain the value of digits.
* I can explain patterns when multiplying a number by powers of 10.
* I can explain patterns when a decimal is multiplied or divided by a power of 10.
* I can read, write, and compare decimals to thousandths.
* I can use place value understanding to round decimals to any place.
* I can add, subtract, multiply, and divide decimals to hundredths. I can use concrete models or drawings to explain the method used.
 | **AKS****Understand the place value system****4.NBT.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.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**6. NBT.3\_a.** read, write, order, and compare place value of decimals to thousandths using base ten numerals, number names, and expanded form (e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000))**7.NBT.3\_b.** compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons**8.NBT.4** use place value understanding to round decimals to any place**11.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 | **Vocabulary**

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| Decimal Decimal pointFraction |
| Place value |
| Rounding |

 | **Textbook Resources****HOS:**[Lesson 3: Rounding Decimals](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NBT3.pdf)[Lesson 4: Add and Subtract Decimals I](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NBT4.pdf)**McGraw Hill/My Math****Chapter 1**Lesson 1, 3-8Think Math – Chapter 7, Lessons1-4 |
| **Teacher Resources:****Technology Resources****Instructional Support:** [**Learnzillion: determine value of digit in thousandths place**](http://learnzillion.com/lessons/2519-determine-the-value-of-a-digit-in-the-thousandths-place)[**Learnzillion: understand that place value increases ten times with each shift of the decimal to the left**](http://learnzillion.com/lessons/2389-understand-that-place-value-increases-ten-times-with-each-shift-to-the-left-in-a-multidigit-number)[**Learnzillion: use number lines to show increases in place value with each shift of the decimal to the left**](http://learnzillion.com/lessons/2642-use-number-lines-to-show-increases-in-place-value-with-each-shift-to-the-left-in-a-multidigit-number)[**Learnzillion: use base ten blocks to understand shift in place value**](http://learnzillion.com/lessons/2599-use-base-ten-blocks-to-understand-how-place-value-decreases-with-each-shift-to-the-right-in-a-multidigit-number)[**Learnzillion: use number lines to show decreases in place value with every shift of the decimal to the right**](http://learnzillion.com/lessons/2675-use-number-lines-to-show-decreases-in-place-value-with-every-shift-to-the-right-in-a-multidigit-number)[**Learnzillion: multiplying and dividing by ten to shift place value**](http://learnzillion.com/lessons/2676-recognize-place-value-relationships-by-multiplying-and-dividing-by-ten)**Technology Resources****Teacher notes:****Semi-Concrete:** Given drawings/pictures of number values and labeling cards, student will match picture pairs to its number form, word form and expanded form. Student should then be able to compare the number pairs to discern which is greater than or if pairs show a number equivalence.**Semi-Abstract:** Students label 6.5, 6.25, 6.36, 6.72, and 6.9 on a teacher provided number line. Once labeled, have student write two decimal numbers that come between any two of the given numbers. Student generated numbers should have values ranging to thousandths. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples, decimals**Anchor Charts**Decimal Place ValuePowers of 10Add, Subtract, Multiply, Divide Decimals | **Manipulatives**Base Ten BlocksNumber linesArrays100 Charts**Homework**Week 7 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 1st****Week - 8 Dates – 9/25/2017****Learning Targets****Unit – 2 Decimals*** I can understand and explain the value of digits.
* I can explain patterns when multiplying a number by powers of 10.
* I can explain patterns when a decimal is multiplied or divided by a power of 10.
* I can read, write, and compare decimals to thousandths.
* I can use place value understanding to round decimals to any place.
* I can add, subtract, multiply, and divide decimals to hundredths. I can use concrete models or drawings to explain the method used.
 | **AKS****Understand the place value system****4.NBT.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.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**6. NBT.3\_a.** read, write, order, and compare place value of decimals to thousandths using base ten numerals, number names, and expanded form (e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000))**7.NBT.3\_b.** compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons**8.NBT.4** use place value understanding to round decimals to any place**11.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 | **Vocabulary**

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| Decimal Decimal pointFraction |
| Place value |
| Rounding |

 | **Textbook Resources****HOS:**[Lesson 5: Add and Subtract Decimals II](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NBT5.pdf)[Lesson 6: Multiply and Divide Decimals](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NBT6.pdf)**McGraw Hill/My Math****Chapter 6**Think Math – Chapter 7, Lessons 11 |
| **Teacher Resources:**[**Adding and subtracting decimals using virtual base ten blocks**](http://nlvm.usu.edu/en/nav/frames_asid_264_g_2_t_1.html?from=category_g_2_t_1.html)[**Learnzillion: using rounding to estimate decimal sums and differences**](http://learnzillion.com/lessons/545-estimate-the-addition-and-subtraction-of-decimals-using-smart-rounding)[**Learnzillion: using base ten blocks to add decimals**](http://learnzillion.com/lessons/546-add-decimals-using-base-ten-blocks)[**Learnzillion: using base 10 blocks to subtract decimals**](http://learnzillion.com/lessons/547-subtract-decimals-using-baseten-blocks)[**Learnzillion: add decimals using a number line**](http://learnzillion.com/lessons/548-add-decimals-using-a-number-line)[**Learnzillion: subtract decimals using a number line**](http://learnzillion.com/lessons/549-subtract-decimals-using-a-number-line)**Performance Based Task:** [**The value of education word problem**](http://www.illustrativemathematics.org/illustrations/1293)**Teacher notes:****Concrete:** Base ten blocks can be used to model multiplication by powers of 10. Students should understand that the exponent tells how many times the multiplicand is being multiplied by 10.**Semi-Concrete:** Student will be able to extend models of whole number multiplication by powers of ten to models of decimals by powers of 10**Semi-Abstract:** Students will be able to use patterns that link the exponent to the number of place values the decimal is moved as a result of multiplying or dividing by powers of 10. A calculator can be used to see that the decimal in the multiplicand moves the same number of places as the exponent, because the exponent shows how many times the number is being multiplied or divided by 10. When multiplying, the decimal moves to the right. When dividing, the decimal moves to the left in the multiplicand. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples, decimals**Anchor Charts**Decimal Place ValuePowers of 10Add, Subtract, Multiply, Divide Decimals | **Manipulatives**Base Ten BlocksNumber linesArrays100 Charts**Homework**Week 8 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 1st****Week - 9 Dates – 10/2/2017****Learning Targets****Unit – 2 Decimals*** I can understand and explain the value of digits.
* I can explain patterns when multiplying a number by powers of 10.
* I can explain patterns when a decimal is multiplied or divided by a power of 10.
* I can read, write, and compare decimals to thousandths.
* I can use place value understanding to round decimals to any place.
* I can add, subtract, multiply, and divide decimals to hundredths. I can use concrete models or drawings to explain the method used.
 | **AKS****Understand the place value system****4.NBT.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.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**6. NBT.3\_a.** read, write, order, and compare place value of decimals to thousandths using base ten numerals, number names, and expanded form (e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000))**7.NBT.3\_b.** compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons**8.NBT.4** use place value understanding to round decimals to any place**11.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 | **Vocabulary**

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| Decimal Decimal pointFraction |
| Place value |
| Rounding |

 | **Textbook Resources**[IM: Are these equivalent to 9.52?](https://www.illustrativemathematics.org/content-standards/5/NBT/A/3/tasks/1813)**McGraw Hill/My Math****Chapter 6**Think Math – Chapter 7, Lessons 11 |
| **Teacher Resources:**[**Adding and subtracting decimals using virtual base ten blocks**](http://nlvm.usu.edu/en/nav/frames_asid_264_g_2_t_1.html?from=category_g_2_t_1.html)[**Learnzillion: using rounding to estimate decimal sums and differences**](http://learnzillion.com/lessons/545-estimate-the-addition-and-subtraction-of-decimals-using-smart-rounding)[**Learnzillion: using base ten blocks to add decimals**](http://learnzillion.com/lessons/546-add-decimals-using-base-ten-blocks)[**Learnzillion: using base 10 blocks to subtract decimals**](http://learnzillion.com/lessons/547-subtract-decimals-using-baseten-blocks)[**Learnzillion: add decimals using a number line**](http://learnzillion.com/lessons/548-add-decimals-using-a-number-line)[**Learnzillion: subtract decimals using a number line**](http://learnzillion.com/lessons/549-subtract-decimals-using-a-number-line)**Performance Based Task:** [**The value of education word problem**](http://www.illustrativemathematics.org/illustrations/1293)**Teacher notes:**How is adding and subtracting with decimals similar to adding and subtracting with whole numbers? How are they different?Why does “lining up the decimal points” when you are adding and subtracting with decimals help when finding the answers? Why does this make sense mathematically?How can estimation help when you multiply and divide with decimals? Use examples to support your answer.Without doing the calculations, what can you conclude about the products of the following equations?* 1. x 6 3.45 x 6 3.452 x 6

How can you use 45 ÷ 3 = 15 to help you with 4.5 ÷ 3?When Jamie added .4 + .7 he got .11. Explain to him what he did wrong. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment # \_\_\_\_District Assessment # 1st nine weeks benchmark | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, fractions, factors, multiples, decimals**Anchor Charts**Decimal Place ValuePowers of 10Add, Subtract, Multiply, Divide Decimals | **Manipulatives**Base Ten BlocksNumber linesArrays100 Charts**Homework**Week 9 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |





Fifth Grade Math Framework – 2nd Nine Weeks 2017-2018

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| **Quarter – 2nd****Week - 10 Dates – 10/9/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I caninterpret a fraction as division of the numerator by the denominator.
* I can add and subtract fractions with unlike denominators and mixed numbers.
* I can solve word problems that involve fractions.

**In 5th grade students aren’t expected to** **find the least common denominator (LCD)** **or greatest common factor (GCF)** **using a standard algorithm but rather** **to find a common denominator by making** **equivalent fractions. Using the least** **common denominator is a 6th grade** **expectation.** | **AKS****14. 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. Example: 3/5 can be interpreted as "3 divided by 5 and as 3 shared by 5”**Use equivalent fractions as a strategy to add and subtract fractions****12.NF.1** add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators**13. NF.2** solve word problems involving addition and subtraction of fractions 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 (e.g., recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2) | **Vocabulary**

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| common denominatordenominatorequivalent fractionsfactorfraction improper fractionmixed number numeratorsimplest formsimplifyunlike denominators  |

 | **Textbook Resources**[Lesson 3: Fractions as Division](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF3.pdf)**McGraw Hill/My Math**Chapter 8 lessons 1, 2, 3, 5 |
| **Teacher Resources:****Instructional Support:** [**LZ: add fractions with unlike denominators using fraction bars**](http://learnzillion.com/lessons/973-add-fractions-with-different-denominators-using-fraction-bars)[**LZ: subtract fractions with unlike denominators using fraction bars**](http://learnzillion.com/lessons/974-subtract-fractions-with-different-denominators-using-fraction-bars)[**LZ: add mixed numbers with unlike denominators using an area model**](http://learnzillion.com/lessons/975-add-mixed-number-fractions-with-different-denominators-using-area-models)[**LZ: subtract mixed numbers with unlike denominators using an area model**](http://learnzillion.com/lessons/976-subtract-mixed-number-fractions-with-different-denominators-using-area-models)[**LZ: add unlike fractions using equivalent fractions and the number line**](http://learnzillion.com/lessons/977-add-unlike-fractions-using-equivalent-fractions-and-the-number-line)[**LZ: subtract unlike fractions using equivalent fractions and the number line**](http://learnzillion.com/lessons/978-subtract-unlike-fractions-using-equivalent-fractions-and-the-number-line)**Performance Based Task:** [**Finding denominators to add**](http://www.illustrativemathematics.org/illustrations/848)[**Jog-a-thon**](http://www.illustrativemathematics.org/illustrations/855)**Student Practice:** [**adding fractions using virtual area models**](http://nlvm.usu.edu/en/nav/frames_asid_106_g_2_t_1.html?from=category_g_2_t_1.html) | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment # 2 - [5th Grade: Unit 2 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade_Unit%202.docx?_&d2lSessionVal=1XFMK31rfgMqFMzJRJWBz2I9A&ou=58323)District Assessment # 1st nine weeks benchmark | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimals**Anchor Charts**Add, Subtract FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction CirclesFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 10 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd****Week - 11 Dates – 10/16/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I caninterpret a fraction as division of the numerator by the denominator.
* I can add and subtract fractions with unlike denominators and mixed numbers.
* I can solve word problems that involve fractions.

**In 5th grade students aren’t expected to** **find the least common denominator (LCD)** **or greatest common factor (GCF)** **using a standard algorithm but rather** **to find a common denominator by making** **equivalent fractions. Using the least** **common denominator is a 6th grade** **expectations.** | **AKS****14. 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. Example: 3/5 can be interpreted as "3 divided by 5 and as 3 shared by 5”**Use equivalent fractions as a strategy to add and subtract fractions****12.NF.1** add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators**13. NF.2** solve word problems involving addition and subtraction of fractions 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 (e.g., recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2) | **Vocabulary**

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| common denominatordenominatorequivalent fractionsfactorfraction improper fractionmixed number numeratorsimplest formsimplifyunlike denominators  |

 | **Textbook Resources**[Lesson 1: Add Fractions with Unlike Denominators](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF1.pdf)[Lesson 2: Subtract Fractions with Unlike Denominators](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF2.pdf)**McGraw Hill/My Math**Chapter 8 lessons 1, 2, 3, 5 |
| **Teacher Resources:****Concrete**: Students apply their understanding of fractions and fraction models to represent addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators using manipulatives such as fraction bars, fraction strips, or circle fraction models. First, build upon last year’s understanding of adding and subtracting fractions with like denominators. Pose the problem 3/5 + 1/5. Students use fraction bars to combine 3/5 and 1/5 to show the sum, 4/5. Next, provide students with problems that require changing only one of the denominators and progress to problems requiring changes to both denominators. For example, when adding 1/3 + 1/6, students should apply their understanding of equivalent fractions and their ability to rewrite fractions in an equivalent form to find common denominators. **Example**:Add 1/3 and 1/6. Student creates model of each fraction using fraction bars. Student creates an equivalent fraction for 1/3 as 2/6 and adds 2/6 and 1/6 to find the sum of 3/6. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimals**Anchor Charts**Add, Subtract FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction CirclesFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 11 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd****Week - 12 Dates – 10/23/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I caninterpret a fraction as division of the numerator by the denominator.
* I can add and subtract fractions with unlike denominators and mixed numbers.
* I can solve word problems that involve fractions.

**In 5th grade students aren’t expected to** **find the least common denominator (LCD)** **or greatest common factor (GCF)** **using a standard algorithm but rather** **to find a common denominator by making** **equivalent fractions. Using the least** **common denominator is a 6th grade** **expectation.** | **AKS****14. 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. Example: 3/5 can be interpreted as "3 divided by 5 and as 3 shared by 5”**Use equivalent fractions as a strategy to add and subtract fractions****12.NF.1** add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators**13. NF.2** solve word problems involving addition and subtraction of fractions 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 (e.g., recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2) | **Vocabulary**

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| common denominatordenominatorequivalent fractionsfactorfraction improper fractionmixed number numeratorsimplest formsimplifyunlike denominators  |

 | **Textbook Resources**[5-1 Add and Subtract Fractions with Unlike Denominators](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6813/cad43441966d2324b3e1148fc897eec6)[5-2 Add and Subtract Fractions with Unlike Denominators](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6814/cad43441966d2324b3e1148fc897eec6)[5-3 Add and Subtract with Unlike Denominators](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6815/cad43441966d2324b3e1148fc897eec6)**McGraw Hill/My Math**Chapter 8 lessons 1, 2, 3, 5 |
| **Teacher Resources:****Concrete**: Using estimation strategies, students first estimate the answer to the problem given below. Then using fraction bars, strips, or circles, students solve the word problem to find the exact answer. Finally, students evaluate the reasonableness of the answer by comparing their estimation to the exact sum. **Example:** You have two same size bags of M&Ms. Bag A is 3/8 full and Bag B is 1/4 full. If you combine the two bags of candy, will you have less than a half, about half, or more than half of a bag of candy? Using estimation strategies and knowledge of fractions, students might reason that 3/8 of a bag of candy is only 1/8 of a bag short of being half. Since 1/4 is equal to 2/8, once combined the amount would be slightly over 1/2. To find the exact answer, students use fraction bars to show that more than a half of a bag could be made by combining the two amounts. Students change 1/4 to its equivalent (2/8) and then add 2/8 and 3/8, resulting in the sum 5/8. 5/8 is more than 1/2 (4/8). The exact answer is verified as a reasonable result when compared to the estimation. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimals**Anchor Charts**Add, Subtract FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction CirclesFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 12 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd****Week - 13 Dates – 10/30/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I caninterpret a fraction as division of the numerator by the denominator.
* I can add and subtract fractions with unlike denominators and mixed numbers.
* I can solve word problems that involve fractions.

**In 5th grade students aren’t expected to** **find the least common denominator (LCD)** **or greatest common factor (GCF)** **using a standard algorithm but rather** **to find a common denominator by making** **equivalent fractions. Using the least** **common denominator is a 6th grade** **expectation.** | **AKS****14. 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. Example: 3/5 can be interpreted as "3 divided by 5 and as 3 shared by 5”**Use equivalent fractions as a strategy to add and subtract fractions****12.NF.1** add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators**13. NF.2** solve word problems involving addition and subtraction of fractions 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 (e.g., recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2) | **Vocabulary**

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| common denominatordenominatorequivalent fractionsfactorfraction improper fractionmixed number numeratorsimplest formsimplifyunlike denominators  |

 | **Textbook Resources**[Unit 4:](https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-4.pdf)The Black BoxThe Wishing ClubFraction: Addition and SubtractionFlip it Over**McGraw Hill/My Math**Chapter 8 lessons 1, 2, 3,  |
| **Teacher Resources:*** When adding 7/12 + 3/12, why do you add the numerators but keep the denominator the same?
* The difference of two fractions is ¾. What could the fractions be?
* Two fractions less than 1 result in a sum of 1 ⅔. What could the fractions be?
* How do you know that 2 1/2 + 3 2/3 > 6?
* Emily says the answer to 7/9 - 2/6 is 5/3. Is Emily correct? If not, help her understand her mistake?
* Use the digits 2, 3, 4, 5, 8, and 9 to form two different mixed numbers with a difference between 1 and 2.
* Show the sum of ⅔ + ⅚ using a number line?

There is ⅘ of the pepperoni pizza left over, and ¾ of the Hawaiian pizza left over. Sydney says that there are 1 ½ total pizzas left. Do you agree? Explain why or why not.Write a subtraction problem that has the same difference as ¾ - ⅛.Why doesn't 2/6 - 1/4 = 1/2?Why can you use mental computation to solve 5 - 3 1/2? | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimalsInput/output**Anchor Charts**Add, Subtract Fractions Equivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction CirclesFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 13 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 2nd****Week - 14 Dates – 11/6/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I can multiply a fraction or whole number by a fraction.
* I can think of multiplication as the scaling of a number (similar to a scale on a map.)
* I can solve real world problems by multiplying fractions and mixed numbers.

**In 5th grade students aren’t expected to** **find the least common denominator (LCD)** **or greatest common factor (GCF)** **using a standard algorithm but rather** **to find a common denominator by making** **equivalent fractions. Using the least** **common denominator is a 6th grade** **expectation.** | **AKS****Apply and extend previous understandings of multiplication to multiply fractions****21.NF.6** solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem **[Embed in AKS 15-21]****15.NF.4** apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction**16.NF.4\_a.** Apply and use the understanding of multiplication to multiply a fraction or whole number by a fraction. Examples: (a/b) x q as (a/b) x (q/1) and (a/b) x (c/d) = ac/bd**17. NF.4\_b.** find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths.**18.NF.5** relate the principle of fraction equivalence, a/b = (n x a)/(n x b), to the effect of multiplying a/b by 1**19.NF.5\_a.** interpret multiplication as scaling by comparing the size of the product to the sizes of the factors without multiplying**20. NF.5\_b.** explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and why multiplying a given number by a fraction less than 1 results in a product smaller than the given number | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, product, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[Lesson 4: Multiplying Fractions by Whole Numbers](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF4.pdf)[Lesson 5: Multiplying Two Fractions](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF5.pdf)[Lesson 6: Multiply with Fractions](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF6.pdf)**McGraw-Hill/ My Math** Chapter 9 – all Think Math - 11.5, 11.6 and 11.11 |
| **Teacher Resources:****Instructional Support:** [**LZ: multiply mixed numbers using pictures**](http://learnzillion.com/lessons/129-multiply-mixed-numbers-using-pictures)[**LZ: multiply a fraction by a whole number using visual representations**](http://learnzillion.com/lessons/3421-multiply-a-fraction-by-a-whole-number-using-visual-representations)[**LZ: multiply a fraction by a fraction using visual representations**](http://learnzillion.com/lessons/3468-multiply-a-fraction-by-a-fraction-using-visual-representations)[**LZ: multiply fractions by mixed numbers using visual representations**](http://learnzillion.com/lessons/3358-multiply-fractions-by-mixed-numbers-using-visual-representations)[**LZ: multiplying mixed numbers by mixed numbers using visual representations**](http://learnzillion.com/lessons/3362-multiply-mixed-numbers-by-mixed-numbers-using-visual-representations)[**LZ: write equations to multiply fractions and mixed numbers**](http://learnzillion.com/lessons/3471-write-equations-to-multiply-fractions-and-mixed-numbers) | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimalsInput/output**Anchor Charts**Add, Subtract FractionsMultiply FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction Circles/SquaresFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 14 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd****Week - 15 Dates – 11/13/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I can multiply a fraction or whole number by a fraction.
* I can think of multiplication as the scaling of a number (similar to a scale on a map.)
* I can solve real world problems by multiplying fractions and mixed numbers.
 | **AKS****Apply and extend previous understandings of multiplication to multiply fractions****21.NF.6** solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem **[Embed in AKS 15-21]****15.NF.4** apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction**16.NF.4\_a.** Apply and use the understanding of multiplication to multiply a fraction or whole number by a fraction. Examples: (a/b) x q as (a/b) x (q/1) and (a/b) x (c/d) = ac/bd**17. NF.4\_b.** find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths.**18.NF.5** relate the principle of fraction equivalence, a/b = (n x a)/(n x b), to the effect of multiplying a/b by 1**19.NF.5\_a.** interpret multiplication as scaling by comparing the size of the product to the sizes of the factors without multiplying**20. NF.5\_b.** explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and why multiplying a given number by a fraction less than 1 results in a product smaller than the given number | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, product, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[5-9 Multiplication as Scaling](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6821/cad43441966d2324b3e1148fc897eec6)[5-10 Multiplication as Scaling](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6822/cad43441966d2324b3e1148fc897eec6)**McGraw-Hill/ My Math** Chapter 9 – all Think Math - 11.5, 11.6 and 11.11 |
| **Teacher Resources:****Teacher notes:** Concrete: Student will be able to use sets of counters, fraction circles or fraction bars to demonstrate repeated addition of a fraction by a whole number factor. Use a model to solve 3 x $\frac{2}{6}$ Student can start with 3 wholes and show $\frac{2}{6}$ of each whole.**Increasing Rigor**Why is the product of 2x2 greater than 2 and the product of 2 x ½ less than 2?What are two fractions with a product that is less than both fractions?What are two fractions with a product greater than one of the fractions, but less than the other fractions?* A lemonade recipe serves six people and requires 2 ⅔ cup sugar. How much sugar will you need if you make the recipe to serve 9 people?
* You have a piece of paper that measures 1ft.x1ft. If you want the paper to be ¾ of its size in both length and width, what will be the final measurements of the paper (in inches)?

The community pool measures 12 ⅜ feet x 16 ⅔ feet. John wants to build a pool that is 1 ¾ times the size of the community pool- in length and width. What will be the dimensions of your John’s pool? | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimalsInput/output, Line Plots**Anchor Charts**Add, Subtract FractionsMultiply FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction Circles/SquaresFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 15 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd – 11/20 – 11/25 – NO SCHOOL****Week - 16 Dates – 11/27/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I can multiply a fraction or whole number by a fraction.
* I can think of multiplication as the scaling of a number (similar to a scale on a map.)
* I can solve real world problems by multiplying fractions and mixed numbers.
 | **AKS****Apply and extend previous understandings of multiplication to multiply fractions****21.NF.6** solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem **[Embed in AKS 15-21]****15.NF.4** apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction**16.NF.4\_a.** Apply and use the understanding of multiplication to multiply a fraction or whole number by a fraction. Examples: (a/b) x q as (a/b) x (q/1) and (a/b) x (c/d) = ac/bd**17. NF.4\_b.** find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths.**18.NF.5** relate the principle of fraction equivalence, a/b = (n x a)/(n x b), to the effect of multiplying a/b by 1**19.NF.5\_a.** interpret multiplication as scaling by comparing the size of the product to the sizes of the factors without multiplying**20. NF.5\_b.** explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and why multiplying a given number by a fraction less than 1 results in a product smaller than the given number | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, product, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[Unit 4:](https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-4.pdf)Sharing Candy BarsSharing Candy Bars DifferentlyHiking TrailComparing MP3s**McGraw-Hill/ My Math** **Chapter 10**Lesson 8**Chapter 10**Lesson 1 - 11 |
| **Teacher Resources:*** Use the number line to model 6 x ⅔ (6 groups of ⅔)and then use a different number line to model ⅔ x 6 (⅔ of 6). How are these similar and different?
* Draw a model to show ⅔ x ⅗.
* Draw a model to show the area of a rectangle that measures 2 ¼ inches x 1 ½ inches.
* What are two fractions with a product close to ⅗?
* What are two fractions with a product a bit less than ½?
* What are two fractions with a product close to one whole?
 | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment – Unit 3 Part 1 - [5th Grade: Unit 3-Part 1 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade_Unit%203a.docx?_&d2lSessionVal=RliC0W7A6PjZfklaSMcyvnrxb&ou=58323)District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimalsInput/output, Line Plots**Anchor Charts**Add, Subtract FractionsMultiply FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Circles/Squares Fraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 16 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd****Week - 17 Dates – 12/4/2017****Learning Targets****Unit – 3 Part 2 – Fractions*** I can solve word problems where I divide whole numbers to create an answer that is a mixed number.
* I can understand that fractions are really the division of a numerator by the denominator.
* I can divide fractions by whole numbers and whole numbers by fractions.
* I can solve real world problems involving division of unit fractions by non-zero whole numbers.
 | **AKS****Apply and extend previous understandings of division to multiply fractions****23. NF.7\_b.** apply and extend previous understanding of division to interpret the quotient of a whole number by a unit fraction and compute such quotients (e.g., create a story context for 4 ÷ (1/5) and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x (1/5) = 4)**22. NF.7\_a**. interpret division of a unit fraction by a non-zero whole number and compute such quotients (e.g., create a story context for (1/3) ÷ 4 and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3)**24. NF.7\_c.** solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem, (e.g., how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?)  | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, division/divide, product, quotient, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[Lesson 7: Divide a Unit Fraction by a Whole Number](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF7.pdf)[Lesson 8: Dividing a Whole Number by a Fraction](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF8.pdf)**McGraw-Hill/ My Math** **Chapter 10**Lesson 8**Chapter 10**Lesson 1 - 11 |
| **Teacher Resources:****Instructional Support:** [**LZ: divide whole numbers by unit fractions using a model**](http://learnzillion.com/lessons/1040-divide-whole-numbers-by-unit-fractions-using-a-model)[**LZ: divide whole numbers by unit fractions using a number line**](http://learnzillion.com/lessons/1041-divide-whole-numbers-by-unit-fractions-using-a-number-line)[**LZ: divide whole numbers by unit fractions by using the multiplicative inverse**](http://learnzillion.com/lessons/1042-divide-whole-numbers-by-unit-fractions-using-the-multiplicative-inverse)[**virtual fraction number line bars**](http://nlvm.usu.edu/en/nav/frames_asid_265_g_2_t_1.html?open=activities&from=grade_g_2.html)**Performance Based Task:** [**How many marbles?**](http://www.illustrativemathematics.org/illustrations/1120)[**Origami stars**](http://www.illustrativemathematics.org/illustrations/958)[**How many servings of oatmeal?**](http://www.illustrativemathematics.org/illustrations/829) | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – YESUnit Common Assessment # \_\_\_\_District Assessment - Mid Year | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, factors, multiples, decimalsInput/output, Line Plots**Anchor Charts**Add, Subtract FractionsMultiply, Divide FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction Circles/SquaresFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 17 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 2nd****Week - 18 Dates – 8/11/2017 – 12/20/2017****Learning Targets****Unit – 3 Part 1 – Fractions*** I can solve word problems where I divide whole numbers to create an answer that is a mixed number.
* I can understand that fractions are really the division of a numerator by the denominator.
* I can divide fractions by whole numbers and whole numbers by fractions.
* I can solve real world problems involving division of unit fractions by non-zero whole numbers.
 | **AKS****Apply and extend previous understandings of division to multiply fractions****23. NF.7\_b.** apply and extend previous understanding of division to interpret the quotient of a whole number by a unit fraction and compute such quotients (e.g., create a story context for 4 ÷ (1/5) and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x (1/5) = 4)**22. NF.7\_a**. interpret division of a unit fraction by a non-zero whole number and compute such quotients (e.g., create a story context for (1/3) ÷ 4 and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3)**24. NF.7\_c.** solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem, (e.g., how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?)  | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, division/divide, product, quotient, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[Lesson 7: Divide a Unit Fraction by a Whole Number](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF7.pdf)[Lesson 8: Dividing a Whole Number by a Fraction](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_NF8.pdf)**McGraw-Hill/ My Math** **Chapter 10**Lesson 8**Chapter 10**Lesson 1 - 11 |
| **Teacher Resources:*** The concepts of whole number division are the same as fractional division; concepts should be connected and applied.
* For division by a fraction, the two ways of thinking about the operation – partition and measurement- are very important. The partition or fair-sharing concept of division will lead to very different division procedure than will the measurement or repeat subtraction concept.
	+ Partition problems ask how much each part is if the dividend is partitioned (divided) into a number of equal parts equal to the divisor. Example: If 3 friends share ¾ of a pizza how much of the whole pizza will each friend receive?
	+ Measurement reasoning problems ask how many copies of the divisor are in the dividend. Example: How many ½ servings are in 3 cups?
* Division of a whole number by a fraction can be interpreted as repeated subtraction of the fraction factor.
* Fraction division can be represented with an area model.
 | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment District Assessment  | **Calendar/****Number Talks**Patterns, Daily depositor, Measurement conversions2D Figures, Volume, fractions, factors, multiples, decimalsInput/output, Line Plots**Anchor Charts**Add, Subtract FractionsMultiply, Divide FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction Circles/SquaresFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 18 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |



Fifth Grade Math Framework – 3rd Nine Weeks 2017-2018

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| **Quarter – 3rd****Week - 19 Dates – 1/3- 4, 1/8/2018****Learning Targets****Unit – 3 Part 2 – Fractions*** I can solve word problems where I divide whole numbers to create an answer that is a mixed number.
* I can understand that fractions are really the division of a numerator by the denominator.
* I can divide fractions by whole numbers and whole numbers by fractions.
* I can solve real world problems involving division of unit fractions by non-zero whole numbers.
 | **AKS****Apply and extend previous understandings of division to multiply fractions****23. NF.7\_b.** apply and extend previous understanding of division to interpret the quotient of a whole number by a unit fraction and compute such quotients (e.g., create a story context for 4 ÷ (1/5) and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x (1/5) = 4)**22. NF.7\_a**. interpret division of a unit fraction by a non-zero whole number and compute such quotients (e.g., create a story context for (1/3) ÷ 4 and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3)**24. NF.7\_c.** solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem, (e.g., how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?)  | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, division/divide, product, quotient, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[5-13 Divide Unit Fractions by Whole Numbers](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6825/cad43441966d2324b3e1148fc897eec6)**McGraw-Hill/ My Math** **Chapter 10**Lesson 8**Chapter 10**Lesson 1 - 11 |
| **Teacher Resources:**Concrete: Student will be able to use fraction circles or fraction bars to demonstrate word problems using division of a whole number by a fraction. Use the model to solve 1 ÷$\frac{1}{12}$Semi-Concrete: Student will be able to construct own pictures / models to solve the division word problem, including number lines. Students will also be able to choose the correct model to represent a word problem provided.Semi-Abstract: Students will be able to provide their own physical model if needed to solve real world word problems, e.g. sketching a number line.Abstract: Students can use the concept of multiplicative inverse to model dividing a whole number by a fraction. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – YESUnit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, Measurement conversions2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate Plane**Anchor Charts**Add, Subtract FractionsMultiply, Divide FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction TowersFraction Circles/Squares Fraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 19 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 3rd – MLK Holiday – 1/15/18****Week - 20 Dates – 1/15/2018****Learning Targets****Unit – 3 Part 2 – Fractions*** I can solve word problems where I divide whole numbers to create an answer that is a mixed number.
* I can understand that fractions are really the division of a numerator by the denominator.
* I can divide fractions by whole numbers and whole numbers by fractions.
* I can solve real world problems involving division of unit fractions by non-zero whole numbers.
 | **AKS****Apply and extend previous understandings of division to multiply fractions****23. NF.7\_b.** apply and extend previous understanding of division to interpret the quotient of a whole number by a unit fraction and compute such quotients (e.g., create a story context for 4 ÷ (1/5) and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x (1/5) = 4)**22. NF.7\_a**. interpret division of a unit fraction by a non-zero whole number and compute such quotients (e.g., create a story context for (1/3) ÷ 4 and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3)**24. NF.7\_c.** solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem, (e.g., how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?)  | **Vocabulary**fraction, numerator, denominator, operations, multiplication/multiply, division/divide, product, quotient, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing | **Textbook Resources**[Unit 4](https://www.georgiastandards.org/Georgia-Standards/Frameworks/5th-Math-Unit-4.pdf)Where are the cookies?Dividing with Unit FractionsAdjusting a Recipe**McGraw-Hill/ My Math** **Chapter 10**Lesson 8**Chapter 10**Lesson 1 - 11 |
| **Teacher Resources:**Concrete: Student will be able to use fraction circles or fraction bars to demonstrate word problems using division of a whole number by a fraction. Use the model to solve 1 ÷$\frac{1}{12}$Semi-Concrete: Student will be able to construct own pictures / models to solve the division word problem, including number lines. Students will also be able to choose the correct model to represent a word problem provided.Semi-Abstract: Students will be able to provide their own physical model if needed to solve real world word problems, e.g. sketching a number line.Abstract: Students can use the concept of multiplicative inverse to model dividing a whole number by a fraction. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – YESUnit Common Assessment District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate Plane**Anchor Charts**Add, Subtract FractionsMultiply, Divide FractionsEquivalent FractionsFactors and Multiples | **Manipulatives**Color Tiles Fraction Towers Fraction Circles/SquaresFraction BarsNumber LinesPattern BlocksDeci Blocks**Homework**Week 20 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 3rd****Week - 21 Dates – 1/22/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can understand volume.
* I can measure volume by counting unit cubes.
* I can solve real world problems involving volume.
* I can find the volume of an object using the formulas
* V = l x w x h and V = b x h.
 | **AKS****Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition****27. MD.3\_a.** use words, pictures, or numbers to show a cubic unit is represented by a cube in which each edge has a length of one unit**28.MD.3\_b.** apply concepts of volume measurement to explain volume as an attribute of solid figures packed without gaps or overlaps using "n" unit cubes**29.MD.4** measure volume as cubic centimeters, cubic meters, cubic inches, cubic feet and improvised units**30.MD.5** relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume**31.MD.5\_a.** find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base and represent threefold number products as volumes; associative property**32. MD.5\_b.** estimate, derive and apply the formula(V= l x w x h and V= b x h) for the volume of a cube and a right rectangular prism using manipulatives and relate volume to the operations of multiplication and addition to solve real world and mathematical problems**33.MD.5\_c.** recognize and calculate volume as additive when volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems | **Vocabulary**area of baseattribute, cubic,cubic units,(cubic cm, cubic in, cubic ft, nonstandard cubic u)gap, height, length, measure/measurement, right rectangular prism, solid figure, width, unit, unit cube, Volume | **Textbook Resources**[Lesson 2: Volume of a Rectangular Solid](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_MD2.pdf)[Lesson 3: Volume of a Composite Solid](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_MD3.pdf)**McGraw-Hill/ My Math** **Chapter 12**Lesson 6Lesson 7Lesson 8 |
| **Teacher Resources:****Teacher Notes Concrete:** This is the first time students begin exploring the concept of volume. Prior experiences with “volume” include only liquid volume.Building upon students understanding of area as an attribute of a two-dimensional figure, have groups of students create cubic models of the following dimensions using materials such as straws, rulers/tape measures, paper (such as newsprint, tissue paper, grid paper, cardboard, butcher paper, construction, or copy), masking tape, and scissors: 1cm³, in³, 1ft³, 1yd³, 1m³. (Hint: Sheets of newspaper can be rolled to form the edges of the figures and/or used to create the faces of the figures.)Groups share models and explain what has been built, what each is called, and how your models compare in size to models made by other groups. Use the following questions to continue building upon students’ ability to see how area and volume are similar and different.* How are area and volume alike? different?
* Why is area labeled with square units but volume is labeled as cubic units?
* Think about your home – bedroom, kitchen, bathroom, living room. ‐ What would you measure in square units? Why? What would you measure in cubic units? Why? What does cm2 mean? cm3? How do you know? (continue as needed with in2, in3; ft2, ft3; m2, m3)
 | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment - Unit 3 Part 2 - [5th Grade: Unit 3-Part 2 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade_Unit%203b.docx?_&d2lSessionVal=RliC0W7A6PjZfklaSMcyvnrxb&ou=58323)District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Volume | **Manipulatives**Base Ten BlocksHundred ChartSnap CubesCM Cubes**Homework**Week 21 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 3rd****Week - 22 Dates – 1/29/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can understand volume.
* I can measure volume by counting unit cubes.
* I can solve real world problems involving volume.
* I can find the volume of an object using the formulas
* V = l x w x h and V = b x h.
 | **AKS****Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition****27. MD.3\_a.** use words, pictures, or numbers to show a cubic unit is represented by a cube in which each edge has a length of one unit**28.MD.3\_b.** apply concepts of volume measurement to explain volume as an attribute of solid figures packed without gaps or overlaps using "n" unit cubes**29.MD.4** measure volume as cubic centimeters, cubic meters, cubic inches, cubic feet and improvised units**30.MD.5** relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume**31.MD.5\_a.** find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base and represent threefold number products as volumes; associative property**32. MD.5\_b.** estimate, derive and apply the formula(V= l x w x h and V= b x h) for the volume of a cube and a right rectangular prism using manipulatives and relate volume to the operations of multiplication and addition to solve real world and mathematical problems**33.MD.5\_c.** recognize and calculate volume as additive when volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems | **Vocabulary**area of baseattribute, cubic,cubic units,(cubic cm, cubic in, cubic ft, nonstandard cubic u)gap, height, length, measure/measurement, right rectangular prism, solid figure, width, unit, unit cube, Volume | **Textbook Resources**[5-27 Volume of Solid Figures](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6839/cad43441966d2324b3e1148fc897eec6)[5-28 Volume of Solid Figures](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6840/cad43441966d2324b3e1148fc897eec6)[5-29 Volume of Solid Figures](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6841/cad43441966d2324b3e1148fc897eec6)[5-30 Calculate Volume of Solid Figures](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6842/cad43441966d2324b3e1148fc897eec6)**McGraw-Hill/ My Math** **Chapter 12**Lesson 6Lesson 7Lesson 8 |
| **Teacher Resources:****Student Practice:** [**Exploring Volume**](http://www.k-5mathteachingresources.com/support-files/exploringvolume.pdf)[**Building Rectangular Prism with a Given Volume**](http://www.k-5mathteachingresources.com/support-files/buildingrectangularprismswithagivenvolume.pdf) **Performance Based Task:** [**Designing a Cereal Box**](http://www.k-5mathteachingresources.com/support-files/designingacerealboxx.pdf) [**How many cubes?**](http://www.insidemathematics.org/common-core-math-tasks/5th-grade/5-2004%20How%20Many%20Cubes.pdf)[**Box of clay**](http://www.illustrativemathematics.org/illustrations/1031)[**Comparing volumes of cereal boxes**](http://www.k-5mathteachingresources.com/support-files/comparing-volumes-of-cereal-boxes-project-and-rubric.pdf%20%20%20%20)* A prism was made with four layers each of nine cubes. What other ways can you make a prism with the same volume as that one?
* Create two different shapes with a volume of 32 cubic inches. What are the dimensions of each shape?
* A rectangular prism has a volume of 36 cubic units and one of its dimensions is 3. What might the other dimensions be?
* A factory has a box with the dimensions 3 in x 2 in x 5 in. Can you design a box that will hold twice as much? What will the dimensions be? What is another possibility? Two prisms are joined together and have a combined volume of 60 cubic units. What could be the dimensions of the two prisms? (for example: 2x4x3=24 and 9x2x2=36 so together they equal 60 cubic units)
 | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common AssessmentDistrict Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Volume | **Manipulatives**Base Ten BlocksHundred ChartSnap CubesCM Cubes**Homework**Week 22 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 3rd****Week - 23 Dates – 2/5/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can understand volume.
* I can measure volume by counting unit cubes.
* I can solve real world problems involving volume.
* I can find the volume of an object using the formulas
* V = l x w x h and V = b x h.
 | **AKS****Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition****27. MD.3\_a.** use words, pictures, or numbers to show a cubic unit is represented by a cube in which each edge has a length of one unit**28.MD.3\_b.** apply concepts of volume measurement to explain volume as an attribute of solid figures packed without gaps or overlaps using "n" unit cubes**29.MD.4** measure volume as cubic centimeters, cubic meters, cubic inches, cubic feet and improvised units**30.MD.5** relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume**31.MD.5\_a.** find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base and represent threefold number products as volumes; associative property**32. MD.5\_b.** estimate, derive and apply the formula(V= l x w x h and V= b x h) for the volume of a cube and a right rectangular prism using manipulatives and relate volume to the operations of multiplication and addition to solve real world and mathematical problems**33.MD.5\_c.** recognize and calculate volume as additive when volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems | **Vocabulary**area of baseattribute, cubic,cubic units,(cubic cm, cubic in, cubic ft, nonstandard cubic u)gap, height, length, measure/measurement, right rectangular prism, solid figure, width, unit, unit cube, Volume | **Textbook Resources**[5-31 Calculate Volume of Solid Figures](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6843/cad43441966d2324b3e1148fc897eec6)[5-32 Calculate Volume of Solid Figures](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6844/cad43441966d2324b3e1148fc897eec6)[5-33 Relate Volume of Calculations to Operations](http://manager.classworks.com/gwinnett.k12.ga.us/practice/#/unit/6845/cad43441966d2324b3e1148fc897eec6)**McGraw-Hill/ My Math** **Chapter 12**Lesson 6Lesson 7Lesson 8 |
| **Teacher Resources:****Concrete:** To convert units of measure from one unit of measure to another, students must understand the relationship between the units. Measurement tools such as rules, yard sticks, meter sticks, tape measures, clocks, measuring cups, and scales must be available for frequent student use.**Representational**: Once students have an understanding of the relationships between units, they can begin to form an understanding of how to convert measurements using operational math.**Abstract**: Students convert measures from one unit of measure to either a larger or smaller unit within the context of a word problem. For example, “Brad purchased a couch 6 feet 4 inches long. He has the choice of three walls he could place the couch along in his family room. The lengths of the walls are 81 inches, 58 inches, and 72 inches. On which wall should Brad place the couch? Why?” | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Volume | **Manipulatives**Base Ten BlocksHundred ChartSnap CubesCM Cubes**Homework**Week 23 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 3rd****Week - 24 Dates – 2/12/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can convert measurements within the same measuring system.
 | **AKS****Convert like measurement units within a given measurement system****25.MD.1** convert among different-sized standard measurement units (mass, weight, length, time, etc.) within a given measurement system (customary and metric), and use these conversions in solving multi-step, real world problems (e.g., convert 5 cm to 0.05 m) | **Vocabulary**centimeter (cm), conversion/convert, cup (c), customary, distance, foot (ft), gallon (gal) gram (g), hour (hr), inch (in), kilogram (kg), kilometer (km), length, liquid volume, liter, (L) mass, meter (m), metric, mile (m), milliliter (mL), minute (min) ounce (oz), pint (pt), pound, (lb), quart (qt), second (sec), time yard (yd) | **Textbook Resources****McGraw-Hill/ My Math** **Chapter 11**Lesson 1 - 13 |
| **Teacher Resources:****Performance Based Task:** [**Converting measurement units**](http://www.illustrativemathematics.org/illustrations/293)**Student Practice:** [**Converting units**](http://nlvm.usu.edu/en/nav/frames_asid_272_g_2_t_4.html?open=instructions&from=grade_g_2.html)[**Comparing units of metric linear measure**](http://www.k-5mathteachingresources.com/support-files/comparingunitsofmetriclinearmeasure.pdf)[**Metric conversion word problems**](http://www.k-5mathteachingresources.com/support-files/measurementwordproblemsmetric.pdf)**Concrete:** To convert units of measure from one unit of measure to another, students must understand the relationship between the units. Measurement tools such as rules, yard sticks, meter sticks, tape measures, clocks, measuring cups, and scales must be available for frequent student use.**Representational**: Once students have an understanding of the relationships between units, they can begin to form an understanding of how to convert measurements using operational math.**Abstract**: Students convert measures from one unit of measure to either a larger or smaller unit within the context of a word problem. For example, “Brad purchased a couch 6 feet 4 inches long. He has the choice of three walls he could place the couch along in his family room. The lengths of the walls are 81 inches, 58 inches, and 72 inches. On which wall should Brad place the couch? Why?” | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Metric and Standard (customary) mass, weight, length, time | **Manipulatives**Rulers, Scales, containers, Input/output charts, real world elements**Homework**Week 24 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 3rd****Week - 25 Dates – 2/19/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can convert measurements within the same measuring system.
 | **AKS****Convert like measurement units within a given measurement system****25.MD.1** convert among different-sized standard measurement units (mass, weight, length, time, etc.) within a given measurement system (customary and metric), and use these conversions in solving multi-step, real world problems (e.g., convert 5 cm to 0.05 m) | **Vocabulary**centimeter (cm), conversion/convert, cup (c), customary, distance, foot (ft), gallon (gal) gram (g), hour (hr), inch (in), kilogram (kg), kilometer (km), length, liquid volume, liter, (L) mass, meter (m), metric, mile (m), milliliter (mL), minute (min) ounce (oz), pint (pt), pound, (lb), quart (qt), second (sec), time yard (yd) | **Textbook Resources****McGraw-Hill/ My Math** **Chapter 11**Lesson 1 - 13 |
| **Teacher Resources:****Performance Based Task:** [**Converting measurement units**](http://www.illustrativemathematics.org/illustrations/293)**Student Practice:** [**Converting units**](http://nlvm.usu.edu/en/nav/frames_asid_272_g_2_t_4.html?open=instructions&from=grade_g_2.html)[**Comparing units of metric linear measure**](http://www.k-5mathteachingresources.com/support-files/comparingunitsofmetriclinearmeasure.pdf)[**Metric conversion word problems**](http://www.k-5mathteachingresources.com/support-files/measurementwordproblemsmetric.pdf)**Concrete:** To convert units of measure from one unit of measure to another, students must understand the relationship between the units. Measurement tools such as rules, yard sticks, meter sticks, tape measures, clocks, measuring cups, and scales must be available for frequent student use.**Representational**: Once students have an understanding of the relationships between units, they can begin to form an understanding of how to convert measurements using operational math.**Abstract**: Students convert measures from one unit of measure to either a larger or smaller unit within the context of a word problem. For example, “Brad purchased a couch 6 feet 4 inches long. He has the choice of three walls he could place the couch along in his family room. The lengths of the walls are 81 inches, 58 inches, and 72 inches. On which wall should Brad place the couch? Why?” | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Metric and Standard (customary) mass, weight, length, time | **Manipulatives**Rulers, Scales, containers, Input/output charts, real world elements**Homework**Week 25 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 3rd****Week - 26 Dates – 2/26/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can make a line plot to display data sets of measurements in fractions.
* I can use fraction operations to solve problems involving information presented on a line plot.
 | **AKS****26.MD.2** make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8) and solve problems using the line plot data, e.g., given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally | **Vocabulary**centimeter (cm), conversion/convert, cup (c), customary, distance, foot (ft), gallon (gal) gram (g), hour (hr), inch (in), kilogram (kg), kilometer (km), length, liquid volume, liter, (L) mass, meter (m), metric, mile (m), milliliter (mL), minute (min) ounce (oz), pint (pt), pound, (lb), quart (qt), second (sec), time yard (yd) | **Textbook Resources**[Lesson 1: Make and Use a Line Plot](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_MD1.pdf)**McGraw-Hill/ My Math** **Chapter 11**Lesson 1 - 13 |
| **Teacher Resources:****Student Practice:** [**Fractions on a Line Plot**](http://www.k-5mathteachingresources.com/support-files/fractionsonalineplot.pdf)[**Sacks of Flour**](http://www.k-5mathteachingresources.com/support-files/sacksofflour.pdf)[**Fractions on a line plot (game)**](http://www.illustrativemathematics.org/illustrations/1563)[**Length of Ants line plot**](http://www.k-5mathteachingresources.com/support-files/lengthofantslineplot.pdf)* The total weight of four kittens is 19 oz. One kitten weighs ¼ pound. What could be the weight of the other three kittens?
* Yesterday, I ran less than 5 kilometers but more than 1,200 meters. How far could I have run?
* What is your arm span in millimeters? centimeters? and meters? Use this example to explain how km, m, cm, and mm are related?
* Have each student measure their heights to the nearest ½, ¼, ⅛ and create a class line plot. Have students generate and answer questions about the data including: What is the difference from the shortest student to the tallest student in the class? What is the most common height in our class? What is the average height in our class?(this gets to the redistribution of data)
* What is the relationship between line plots and number lines?

If you collected data on the ages of fifth graders’ grandmothers, would you start your line plot at 0? Why or why not? What would be a reasonable range of numbers to use on this graph? | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment - District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Equivalent FractionsLine Plots | **Manipulatives**Fraction BarsNumber Lines**Homework**Week 26 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 4th****Week - 27 Dates – 3/5/2018****Learning Targets****Unit – 4 – Volume and Measurement*** I can make a line plot to display data sets of measurements in fractions.
* I can use fraction operations to solve problems involving information presented on a line plot.
 | **AKS****26.MD.2** make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8) and solve problems using the line plot data, e.g., given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally | **Vocabulary**centimeter (cm), conversion/convert, cup (c), customary, distance, foot (ft), gallon (gal) gram (g), hour (hr), inch (in), kilogram (kg), kilometer (km), length, liquid volume, liter, (L) mass, meter (m), metric, mile (m), milliliter (mL), minute (min) ounce (oz), pint (pt), pound, (lb), quart (qt), second (sec), time yard (yd) | **Textbook Resources****Illustrative Mathematics**[IM: Fractions on a Line Plot](https://www.illustrativemathematics.org/content-standards/5/MD/B/2/tasks/1563)**McGraw-Hill/ My Math** **Chapter 11**Lesson 1 - 13 |
| **Teacher Resources:****Student Practice:** [**Fractions on a Line Plot**](http://www.k-5mathteachingresources.com/support-files/fractionsonalineplot.pdf)[**Sacks of Flour**](http://www.k-5mathteachingresources.com/support-files/sacksofflour.pdf)[**Fractions on a line plot (game)**](http://www.illustrativemathematics.org/illustrations/1563)[**Length of Ants line plot**](http://www.k-5mathteachingresources.com/support-files/lengthofantslineplot.pdf)* The total weight of four kittens is 19 oz. One kitten weighs ¼ pound. What could be the weight of the other three kittens?
* Yesterday, I ran less than 5 kilometers but more than 1,200 meters. How far could I have run?
* What is your arm span in millimeters? centimeters? and meters? Use this example to explain how km, m, cm, and mm are related?
* Have each student measure their heights to the nearest ½, ¼, ⅛ and create a class line plot. Have students generate and answer questions about the data including: What is the difference from the shortest student to the tallest student in the class? What is the most common height in our class? What is the average height in our class?(this gets to the redistribution of data)
* What is the relationship between line plots and number lines?

If you collected data on the ages of fifth graders’ grandmothers, would you start your line plot at 0? Why or why not? What would be a reasonable range of numbers to use on this graph? | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment - Unit 4 - [5th Grade: Unit 5 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade_Unit%205.docx?_&d2lSessionVal=RliC0W7A6PjZfklaSMcyvnrxb&ou=58323) (actually unit 4)District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Equivalent FractionsLine Plots | **Manipulatives**Fraction BarsNumber LinesGeo-stixGeoboards**Homework**Week 27 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |





Fifth Grade Math Framework – 4th Nine Weeks 2017-2018

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| **Quarter – 4th****Week - 28 Dates – 3/12/2018****Learning Targets****Unit – 5 - 2D Figures*** I can classify shapes into categories.
* I can classify shapes based on properties.
 | **AKS****Classify two-dimensional figures into categories based on their properties****36.G.3** demonstrate that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category (e.g., all rectangles have four right angles and squares are rectangles so all squares have four right angles)**37.G.4** classify two-dimensional figures in a hierarchy based on properties (polygons, triangles, and quadrilaterals) | **Vocabulary**angle (acute, right, obtuse) attribute, category, circle, congruence/congruent, hexagon, kite, lines (parallel, perpendicular, intersecting) pentagon, plane, plane figure, polygon (regular, irregular), quadrilateral, rectangle, rhombus, square, triangle (acute, equilateral, isosceles, scalene), trapezoid, two-dimensional, vertex  | **Textbook Resources**[Lesson 4: Identify and Classify Triangles](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_G4.pdf)[Lesson 5: Identify and Classify Quadrilaterals](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_G5.pdf)[Lesson 6: Regular Polygons](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_G6.pdf)**McGraw-Hill/ My Math** **Chapter 12**Lesson 1Lesson 2Lesson 3\*Lesson 4Lesson 5\*\* |
| **Teacher Resources:****Instructional Support:** [**Learnzillion: count sides and angles to identify polygons**](http://learnzillion.com/lessons/1707-count-sides-and-angles-to-identify-polygons)[**explanation of trapezoid definition**](http://mathforum.org/library/drmath/view/54901.html)[**quadrilateral properties**](https://www.khanacademy.org/math/geometry/quadrilaterals-and-polygons/quadrilaterals/v/quadrilateral-properties%20%20%20%20%20) [**What is a trapezoid?**](http://www.illustrativemathematics.org/illustrations/1505)**Student Practice:** [**Quadrilateral quest**](http://teams.lacoe.edu/documentation/classrooms/amy/geometry/6-8/activities/quad_quest/quad_quest.html)[**Sorting Polygons**](http://illuminations.nctm.org/Lesson.aspx?id=1072)[**Polygon Capture game**](http://illuminations.nctm.org/Lesson.aspx?id=665)**Instructional Support:** [**kite as a mathematical shape**](https://www.khanacademy.org/math/geometry/quadrilaterals-and-polygons/quadrilaterals/v/kites-as-a-mathematical-shape)**Student Practice:** [**Triangle hierarchy diagram 1**](http://www.k-5mathteachingresources.com/support-files/triangle-hierarchy-diagram1.pdf)[**Triangle hierarchy diagram 2**](http://www.k-5mathteachingresources.com/support-files/trianglehierarchydiagram2.pdf)[**Quadrilateral hierarchy diagram**](http://www.k-5mathteachingresources.com/support-files/quadrilateralhierarchydiagram.pdf) | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment District Assessment 3rd nine Weeks | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Geometry Concepts2D ShapesSymmetryQuadrilateralsTriangles | **Manipulatives**Pattern BlocksShapes TangramsDeci Blocks**Homework**Week 28 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 4th****Week - 29 Dates – 3/19/2018****Learning Targets****Unit – 5 - 2D Figures*** I can classify shapes into categories.
* I can classify shapes based on properties.

**Play Guess My Rule**. Create triangle game cards. Be certain triangle pairs (based upon attributes of side length and angle measure) can be found by students. In creating game cards, orient triangles in a variety of ways. Use all types of triangles. (acute, right, obtuse, equilateral, isosceles, scalene) See Georgia Frameworks, Unit 5, My Many Triangles, page 17-22 for additional activities with identifying and sorting triangles by multiple criteria | **AKS****Classify two-dimensional figures into categories based on their properties****36.G.3** demonstrate that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category (e.g., all rectangles have four right angles and squares are rectangles so all squares have four right angles)**37.G.4** classify two-dimensional figures in a hierarchy based on properties (polygons, triangles, and quadrilaterals) | **Vocabulary**angle (acute, right, obtuse) attribute, category, circle, congruence/congruent, hexagon, kite, lines (parallel, perpendicular, intersecting) pentagon, plane, plane figure, polygon (regular, irregular), quadrilateral, rectangle, rhombus, square, triangle (acute, equilateral, isosceles, scalene), trapezoid, two-dimensional, vertex  | **Textbook Resources**[Lesson 4: Identify and Classify Triangles](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_G4.pdf)[Lesson 5: Identify and Classify Quadrilaterals](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_G5.pdf)[Lesson 6: Regular Polygons](http://www.hand2mind.com/pdf/hos/hos-cce-online/e78864_HOS_CCE_Grade%205/e78864_CCE_5_G6.pdf)**McGraw-Hill/ My Math** **Chapter 12**Lesson 1Lesson 2Lesson 3\*Lesson 4Lesson 5\*\* |
| **Teacher Resources:****Conceptual**: Students understand that two-dimensional shapes are categorized based on their attributes (side lengths, angle measures, parallel vs. perpendicular sides), and that shapes can belong to multiple categories. Students will identify the various categories in which a specific shape may belong.**Play Guess My Rule**. Create triangle game cards. Be certain triangle pairs (based upon attributes of side length and angle measure) can be found by students. In creating game cards, orient triangles in a variety of ways. Use all types of triangles. (acute, right, obtuse, equilateral, isosceles, scalene) See Georgia Frameworks, Unit 5, My Many Triangles, page 17-22 for additional activities with identifying and sorting triangles by multiple criteriaProcedural: Have students use geoboards to construct quadrilaterals. Have students share the variety of two-dimensional figures that could have been made (parallelogram, square, rectangle, trapezoid, kite, and rhombus)Discuss what two-dimensional figures would not be included and have students explain why. (circle is not a polygon; triangle isn’t a four-sided figure; pentagon has more than four angles, etc.)Ask students to create a parallelogram. (square, rectangle, or rhombus) Have students explain what two-dimensional figures would not fit the description of a parallelogram and why. (trapezoid (see exclusive definition above), kite, and any other two-dimensional figure that isn’t a quadrilateral) Use the following questions to guide discussion and lead students to understand that attributes belonging to a category of two-dimensional figures also belongs to all subcategories of that category (e.g., All rectangles have four right angles. Squares are rectangles, so all squares have four right angles)* All squares are rectangles, but not all rectangles are squares. Why?
* All squares are rhombi, but not all rhombi are squares. Why?
* Squares, rectangles and rhombi are parallelograms. Why?

Representational: Students create a chart to compare and contrast the attributes of two-dimensional figures. Using the information from the chart, students determine how to classify shapes into categories and subcategories.  | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Geometry Concepts2D ShapesSymmetryQuadrilateralsTriangles | **Manipulatives**Pattern BlocksShapes TangramsDeci Blocks**Homework**Week 29 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 4th****Week - 30 Dates – 3/26/2018****Learning Targets****Unit – 6 – Geometry Coordinate Plane*** I can understand how to graph ordered pairs on a coordinate plane.
* I can graph and interpret points in the first quadrant of a coordinate plane.
* Use numerical rules and patterns to form ordered pairs. Graph the ordered pairs on a coordinate plane.
 | **AKS****Graph points on the coordinate plane to solve real-world and mathematical problems****34.G.1** create, label, and use a coordinate grid system**35.G.2** represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation**Analyze patterns and relationships****3.OA.3** generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms by completing a function table or input/output table. Using the terms created, form, and graph ordered pairs on a coordinate plane. | **Vocabulary**axis/axescoordinatescoordinate planecoordinate systemfirst quadranthorizontalverticalpointordered pairoriginx- axisy –axisx/y coordinaterule  | **Textbook Resources****McGraw-Hill/ My Math** **Chapter 7**Lesson 7Lesson 8 |
| **Teacher Resources:****Technology Resources****Student Practice:** [**Battleship using grid paper**](http://www.illustrativemathematics.org/illustrations/489)**Performance Based Task:** [**Granny's balloon trip**](http://insidemathematics.org/common-core-math-tasks/5th-grade/5-2007%20Granny%27s%20Balloon%20Trip.pdf)[**Hexagons in a row**](http://insidemathematics.org/common-core-math-tasks/5th-grade/5-2006%20Hexagons%20in%20a%20Row.pdf)[**Tri-triangles**](http://insidemathematics.org/problems-of-the-month/pom-tritriangles.pdf)Students need to understand the underlying structure of the coordinate system and see how axes make it possible to locate points anywhere on a coordinate plane. This is the first time students are working with coordinate planes, and **only in the first quadrant**. It is important that students create the coordinate grid themselves. This can be related to two number lines and reliance on previous experiences with moving along a number line.  | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – Quick Check – Unit Common Assessment Unit 5 - [5th Grade: Unit 4 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade._Unit%204docx.docx?_&d2lSessionVal=RliC0W7A6PjZfklaSMcyvnrxb&ou=58323) (actually unit 5)District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Coordinate PlaneX and Y Axes | **Manipulatives**Hundred ChartsMarkersTwo Color Counters**Homework**Week 30 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 4th – SPRING BREAK – 4/2 – 4/6/18****Week - 31 Dates – 4/9/2018****Learning Targets****Unit – 6 – Geometry Coordinate Plane*** I can understand how to graph ordered pairs on a coordinate plane.
* I can graph and interpret points in the first quadrant of a coordinate plane.
* Use numerical rules and patterns to form ordered pairs. Graph the ordered pairs on a coordinate plane.
 | **AKS****Graph points on the coordinate plane to solve real-world and mathematical problems****34.G.1** create, label, and use a coordinate grid system**35.G.2** represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation**Analyze patterns and relationships****3.OA.3** generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms by completing a function table or input/output table. Using the terms created, form, and graph ordered pairs on a coordinate plane. | **Vocabulary**axis/axescoordinatescoordinate planecoordinate systemfirst quadranthorizontalverticalpointordered pairoriginx- axisy –axisx/y coordinaterule  | **Textbook Resources****McGraw-Hill/ My Math** **Chapter 7**Lesson 7Lesson 8Lesson 13 |
| **Teacher Resources:****Concrete**: Student will be able to use manipulatives to represent real-world contexts and patterns. Then students will use those patterns to create ordered pairs or coordinates to graph on a coordinate grid.Use color tiles to represent and extend the pattern in this problem. **Problem**: Fifth graders in Ms. Smith’s class have decided to start a recycling project for Earth Day. They put a bin in the cafeteria to collect used aluminum cans. At the end of each school day, they take the bin back to their classroom and count the cans collected for the day. Ms. Smith’s class is keeping notes about how many cans are being collected. It seems that the number of cans collected each day follows a pattern. If the pattern continues, sketch the number of cans collected on days 4-6 in the boxes below.**Representational**: Student will be able to construct T-charts or input/output tables to represent and extend numerical patterns from real-world contexts. Then students will use those patterns to create ordered pairs or coordinates to graph on a coordinate grid. | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD – YESQuick Check – Unit Common Assessment # \_\_\_\_District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Coordinate PlaneX and Y Axes | **Manipulatives**Hundred ChartsMarkersTwo Color Counters**Homework**Week 31 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 4th****Week - 32 Dates – 4/16/2018****Learning Targets****Unit – 6 – Geometry Coordinate Plane*** I can understand how to graph ordered pairs on a coordinate plane.
* I can graph and interpret points in the first quadrant of a coordinate plane.
* Use numerical rules and patterns to form ordered pairs. Graph the ordered pairs on a coordinate plane.
 | **AKS****Graph points on the coordinate plane to solve real-world and mathematical problems****34.G.1** create, label, and use a coordinate grid system**35.G.2** represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation**Analyze patterns and relationships****3.OA.3** generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms by completing a function table or input/output table. Using the terms created, form, and graph ordered pairs on a coordinate plane. | **Vocabulary**axis/axescoordinatescoordinate planecoordinate systemfirst quadranthorizontalverticalpointordered pairoriginx- axisy –axisx/y coordinaterule  | **Textbook Resources****McGraw-Hill/ My Math** **Chapter 7**Lesson 7Lesson 8 |
| **Teacher Resources:*** Create an input/output chart for 2 different 2-operation rules.
* Calvin is using a copier that makes 9 copies per minute. John’s copy machine makes 12 copies per minute. How many copies will Calvin have after 8 minutes? John finishes copying and has 144 copies, how many minutes did it take him?
* Kay’s pool has a $10 membership fee you pay once a year and then you pay $8 each time you visit the pool. Heather’s pool has no annual fee, but charges $10 each time you visit. Create input/output tables, and determine the “rules” to show the functions for both pools. Graph both functions on the coordinate grid. Both Kay and Heather go to the pool 8 times during the summer, who spent more money? At what number visits would Kay and Heather spend the same amount of money?
* How do you find the distance between to coordinate points?
* Plot (2,3), (7,3) and (2,5). What shape can you create from these three points? Where can you add a point to create a quadrilateral? What quadrilateral did you create?

If Jorge's house is at (5, 8) and his friend Lexi's house is at (3,1), and each square on the grid represents one block. How many blocks would Jorge have to ride his bike to get to Lexi's house? | **Assessment**Check all that apply for the week:Fact Fluency – YESTOTD –Quick Check – Unit Common Assessment Unit 6 - [5th Grade: Unit 6 (Word)](https://instruction.gwinnett.k12.ga.us/content/enforced/58323-MathCommCtr/IRC%202016-2017/ES/Fifth%20Grade/5th%20Grade_Unit%206.docx?_&d2lSessionVal=RliC0W7A6PjZfklaSMcyvnrxb&ou=58323)District Assessment # \_\_\_\_ | **Calendar/****Number Talks**Patterns, Daily depositor, preview geometry, 2D Figures, Volume, fractions, Input/output, Line Plots, Coordinate PlaneMeasurement conversions**Anchor Charts**Coordinate PlaneX and Y Axes | **Manipulatives**Hundred ChartsMarkersTwo Color Counters**Homework**Week 32 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 4th****Week - 33 Dates – 4/23/2018****Learning Targets****REVIEW FOR MILESTONES** | **AKS****REVIEW FOR MILESTONES** | **Vocabulary****REVIEW FOR MILESTONES** | **Textbook Resources****REVIEW FOR MILESTONES** |
| **Teacher Resources:**[**http://www.coolmath-games.com/**](http://www.coolmath-games.com/)[**https://www.brainpop.com/**](https://www.brainpop.com/)[**https://www.mobymax.com/signin**](https://www.mobymax.com/signin) | **Assessment****REVIEW FOR MILESTONES** | **Calendar/****Number Talks****REVIEW FOR MILESTONES****Anchor Charts****REVIEW FOR MILESTONES** | **Manipulatives****REVIEW FOR MILESTONES****Homework**Week 33 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 4th****Week - 34 Dates – 4/30/2018****Learning Targets****REVIEW FOR MILESTONES** | **AKS****REVIEW FOR MILESTONES** | **Vocabulary****REVIEW FOR MILESTONES** | **Textbook Resources****REVIEW FOR MILESTONES** |
| **Teacher Resources:**[**http://www.coolmath-games.com/**](http://www.coolmath-games.com/)[**https://www.brainpop.com/**](https://www.brainpop.com/)[**https://www.mobymax.com/signin**](https://www.mobymax.com/signin) | **Assessment****REVIEW FOR MILESTONES** | **Calendar/****Number Talks****REVIEW FOR MILESTONES****Anchor Charts****REVIEW FOR MILESTONES** | **Manipulatives****REVIEW FOR MILESTONES****Homework**Week 34 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |

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| **Quarter – 1st****Week - 35 Dates – 5/7/2018****Learning Targets****PREVIEW 6th Grade Standards** | **AKS****PREVIEW 6th Grade Standards** | **Vocabulary****PREVIEW 6th Grade Standards** | **Textbook Resources****PREVIEW 6th Grade Standards** |
| **Teacher Resources:**[**http://www.coolmath-games.com/**](http://www.coolmath-games.com/)[**https://www.brainpop.com/**](https://www.brainpop.com/)[**https://www.mobymax.com/signin**](https://www.mobymax.com/signin) | **Assessment****PREVIEW 6th Grade Standards**District Assessment POSTTEST | **Calendar/****Number Talks****PREVIEW 6th Grade Standards****Anchor Charts****PREVIEW 6th Grade Standards** | **Manipulatives****PREVIEW 6th Grade Standards****Homework**Week 35 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |
| **Quarter – 4th****Week - 36 Dates – 5/14/2018 – 5/23/2017****Learning Targets****PREVIEW 6th Grade Standards** | **AKS****PREVIEW 6th Grade Standards** | **Vocabulary****PREVIEW 6th Grade Standards** | **Textbook Resources****PREVIEW 6th Grade Standards** |
| **Teacher Resources:**[**http://www.coolmath-games.com/**](http://www.coolmath-games.com/)[**https://www.brainpop.com/**](https://www.brainpop.com/)[**https://www.mobymax.com/signin**](https://www.mobymax.com/signin) | **Assessment****PREVIEW 6th Grade Standards** | **Calendar/****Number Talks****PREVIEW 6th Grade Standards****Anchor Charts****PREVIEW 6th Grade Standards** | **Manipulatives****PREVIEW 6th Grade Standards****Homework**Week 36 SpiralUse your Weekly Spiral HW as desired. Add other differentiated HW to weekly plans. |