Curriculum Mapping
5th Grade Math

Trimester 1	**Topic:** Topic 1- Understanding Place Value	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Understand the place value system.
 	
5.NBT.A.1
Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
 	
5.NBT.A.2
Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
 	
5.NBT.A.3
Read, write, and compare decimals to thousandths.
 	
5.NBT.A.3.A
Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
 	
5.NBT.A.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.
 	
5.NBT.A.4
Use place value understanding to round decimals to any place.
	Essential Questions
	• How are whole numbers and decimals written, compared, and ordered?
	
	Enduring Understanding
	• Whole numbers and decimals can be written in standard, expanded, and word form.
	  ○ Examples: 601,345 (standard form) can also be written as 600,000 + 1,000 + 300 + 40 + 5 (expanded form) and as six hundred one thousand, three hundred forty-five (word form). 43.649 (standard form) can also be written as 40 + 3 + 0.6 + 0.04 + 0.009 (expanded form) and as forty-three and six hundred forty nine thousandths.
	
	• Whole numbers and decimals can be compared and ordered using place value.
	  ○ Example: Compare 7.034 and 7.34. Compare the ones. 7=7. Compare the tenths: $0 < 3$. So, $7.034 < 7.34$
	  ○
	• Ordered 0.65, 0.63, 0.69 from least to greatest. Align the numbers by their decimal points. Starting in the greatest place-value position, compare the digits until you find digits that are different. In the hundredths place, 5 is greater than 3 but less than 9. Ordered from least to greatest: 0.63, 0.65, 0.69
		Materials:
		enVision math 2.0
		
		1.1 Patterns with exponents and Powers of 10
		1.2 Understand Whole-Number Place Value
		1.3 Decimals to Thousandths
		1.4 Understand Decimal Place Value
		1.5 Compare Decimals
		1.6 Round Decimals
		1.7 Look for and Use Structure
		
		Vocabulary:
		➢ exponent
		➢ power
		➢ base
		➢ value
		➢ expanded form
		➢ thousandth
		➢ equivalent decimals
		
		Assessments:
		
		Formative
		Topic Readiness Test
		Teacher Observation
		Daily Quick check Masters
		
		Summative
		Topic Tests
		Performance Tasks

Curriculum Mapping
5th Grade Math

Trimester 1	**Topic:** Topic 2 – Add and Subtract Decimals to Hundredths	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Understand the place value system. 5.NBT.A.4 Use place value understanding to round decimals to any place. **Perform operations with multi-digit whole numbers and with decimals to hundredths.** 5.NBT.B.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.	**Essential Questions** • How can sums and differences of decimals be estimated? What are the standard procedures for adding and subtracting decimals? How can sums and differences be found mentally? **Enduring Understanding** • Sums and differences of decimals can be estimated by rounding or by substituting compatible numbers. o Examples: To estimate the sum of 7.25 and 5.6 you can round each decimal to the nearest whole number. $7 + 6 = 13$, so $7.25 + 5.6$ is about 13. • You can add or subtract decimals using place value and addition and subtraction strategies. o Example: To add $546.7 + 123.2 + 3.8$, you can use the Associative Property of Addition: $(546.7 + 123.2) + 3.8$ or $546.7 + (123.2 + 3.8)$ o You can also use the Commutative Property of Addition: $123.2 + 546.7 = 546.7 + 123.2$ • Sums and differences can be found mentally by using compatible numbers and compensation. o Examples: To add $15 + 27 + 85$, you can add 15 and 85 first. 15 and 85 are compatible numbers, which means they are easy to add. Their sum is 100 and $100 + 27 = 127$. Similarly, to add $1.5 + 2.74 + 8.5$, add $1.5 + 8.5$ first. Add 10, the sum, to 2.74. o To find $23.2 – 17.8$, add 2 tenths to 17.8 so that the problem becomes $23.2 – 18 = 5.2$. Then add 2 tenths back to compensate and get the exact difference. $23.2 – 17.8 = 5.4$.	**Materials:** enVision math 2.0 2.1 Mental Math 2.2 Estimate Sums and Differences 2.3 Use Models to Add and Subtract Decimals 2.4 Add Decimals 2.5 Subtract Decimals 2.6 Add and Subtract Decimals 2.7 Model with Math **Vocabulary:** ➢ compatible numbers ➢ compensation ➢ Commutative Property of Addition ➢ Associative Property of Addition **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

Curriculum Mapping
5th Grade Math

Trimester 1	**Topic:** Topic 3 – Fluently Multiply Multi-Digit Whole Numbers	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Understand the place value system. 5.NBT.A.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. **Perform operations with multi-digit whole numbers and with decimals to hundredths.** 5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.	**Essential Questions** • What are the standard procedures for estimating and finding products of multi=digit numbers? **Enduring Understanding** • Products of numbers and powers of 10 can be found mentally using basic facts and patterns of zeros. o Examples: $27 \times 10^3 = 27 \times 1{,}000 = 27{,}000$ o The exponent 3 means the decimal point moves three places to the right. o • Rounding or compatible numbers can be used to estimate products o Examples: Estimate 372 x 42 **Round to the nearest 10**: 370 x 40 = 14,800 **Compatible numbers**: 400 x 40 = 16,000 • You can multiply whole numbers using place value. Multiply the first factor and the ones in the second factor. Then multiply the first factor and the tens in the second factor. Add the partial products. o Example: 1,482 x 57 7 x 1,482 = 10,374 50 x 1,482 = 74,100 10,374 + 74,100 = 84,474 So, 1,482 x 57 = 84,474	**Materials:** enVision math 2.0 3.1 Multiply Greater Numbers By Powers of 10 3.2 Estimate Products 3.3 Multiply 3-Digit by 2-Digit Numbers 3.4 Multiply Whole Numbers with Zeroes 3.5 Multiply Multi-Digit Numbers 3.6 Solve Word Problems Using Multiplication 3.7 Critique Reasoning **Vocabulary:** ➢ underestimate ➢ overestimate ➢ partial products ➢ variable **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

Curriculum Mapping
5th Grade Math

Trimester 1	**Topic:** Topic 4 – Use Models and Strategies To Multiply Decimals	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Understand the place value system. 5.NBT.A.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. **Perform operations with multi-digit whole numbers and with decimals to hundredths.** 5.NBT.B.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.	**Essential Questions** • What are the standard procedures for estimating and finding products of multi-digit numbers? **Enduring Understanding** • Rounding or compatible numbers can be used to estimate products ○ Examples: Estimate 29.5 x 34.1 **Round to the nearest 10**: 30 x 30 = 900 **Compatible numbers**: 30 x 35 = 1,050 • You can multiply whole numbers and decimals using place value. One standard procedure is to multiply as you would with whole numbers. Then the total number of decimal places in the factors determines the position of the decimal point in the product. ○ Example: 0.17 *2 decimal places* X 26 *0 decimal places* 102 340 4.42 *2 decimal places* • Products of decimals and factors that are powers of ten can be found mentally by using basic facts and patterns of zeros. ○ Example: $7.45 \times 10^2 = 7.45 \times 100 = 745$ The exponent 2 and the two zeros in 100 mean the decimal point moves two places to the right.	**Materials:** enVision math 2.0 4.1 Multiply Decimals By Powers of 10 4.2 Estimate the Product of a Decimal and a Whole Number 4.3.Use Models to Multiply a Decimal and a Whole Number 4.4 Multiply a Decimal By a Whole Number 4.5 Models to Multiply a Decimal and a Decimal 4.6 Multiply Decimals Using Partial Products 4.7 Use Properties to Multiply Decimals 4..8 Use Number Sense to Multiply Decimals 4.9 Multiply Decimals 4.10 Model with Math **Vocabulary:** ~Review Previous Vocabulary~ **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

Curriculum Mapping
5th Grade Math

Trimester 2	**Topic:** Topic 5- Use Models and Strategies to Divide Whole Numbers	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Perform operations with multi-digit whole numbers and with decimals to hundredths.
 	
5.NBT.B.6
Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
	Essential Questions
	• What is the standard procedure for division and why does it work?
	
	Enduring Understanding
	• Rounding or compatible numbers can be used to estimate quotients.
	  ○ Example: To estimate 47,109 ÷ 54, round 47,000 ÷ 50 or use compatible numbers 55,000 ÷ 55
	• You can use basic facts and place-value patterns to divide mentally by multiples of ten. An array or area model can also be used.
	  ○ Example: For 45,000 ÷ 90, use a basic fact and multiples of 10.
	  45 ÷ 9 = 5
	  450 ÷ 90 = 45 tens ÷ 9 tens = 5
	  4,500 ÷ 90 = 450 tens ÷ 9 tens = 50
	  45,000 ÷ 90 = 4,500 tens ÷ 9 tens =500
	  So 45,000 ÷ 90 = 500
	• The procedure for dividing with 2-digit divisors is an extension of the algorithm for dividing with a 1-digit divisor. The steps are estimate, divide, multiply, subtract, compare, bring down a digit, and repeat.
	  ○ Example: Find 687 ÷ 28. Estimate 600 ÷ 30 = 20. The first digit of the quotient is in the tens place.
	  ○
	  24 R15
	28) 687 Divide the tens → 68 ÷ 28 = about 2
	-56 Multiply → 2 x 28 = 56
	127 Subtract → 68 -56 = 12
	-112 Compare → 12 < 28, so bring down 7
	15 Divide the ones → 127 ÷ 28 = about 4
	Multiply → 4 x 28 = 112
	Subtract → 127-112 = 15
	Compare → 15 < 28
		Materials:
		enVision math 2.0
		
		5.1 Use Patterns and Mental Math to Divide
		5.2 Estimate Quotients with 2-Digit Divisors
		5.3.Use Models to Divide with 2-Digit Divisors
		5.4 Use Partial Quotients to Divide
		5.5 Divide by Multiples of 10
		5.6 Use Estimation To Place The First Digit of the Quotient
		5.7 Divide by 2-Digit
		5.8 Make Sense and Preserve
		
		Vocabulary:
		~Review Previous Vocabulary~
		
		Assessments:
		
		Formative
		Topic Readiness Test
		Teacher Observation
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Trimester 2	**Topic:** Topic 6- Use Models and Strategies To Divide Decimals	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Understand the place value system.
 	
5.NBT.A.1
Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
 	
5.NBT.A.2
Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
 	
Perform operations with multi-digit whole numbers and with decimals to hundredths.
 	
5.NBT.B.6
Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
 	
5.NBT.B.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.
	Essential Questions
	• What are the standard procedures for estimating and finding quotients involving decimals?
	
	Enduring Understanding
	• Two techniques to estimate quotients are rounding and using compatible numbers. The dividend and divisor can be rounded to numbers that are easier to divide. Compatible numbers can be used in most cases to make the computation easier.
	  ○ Example: To estimate the quotient of 55.5 and 7.8, the numbers can be rounded to 56 and 8. The estimated quotient would be 7.
	• To divide decimals by 10 or 100, the decimal point moves 1 or 2 places to the left respectively. The decimal point moves depending on the number of zeros in the divisor.
	  ○ Example: $456.5 \div 100 = 4.565$. The decimal point moves two places to the left.
	• The process for dividing decimals is similar to the process for dividing whole numbers.
	  ○ Example:
	
	0.24 The decimal point in the quotient
	15) 3.60 goes directly above the decimal
	-3 0 point in the dividend,
	60
	-60
	0
		enVision math 2.0
		
		6.1 Patterns For Dividing With Decimals
		6.2 Estimate Decimal Quotients
		6.3.Use Models To Divide By A 1-Digit Whole Number
		6.4 Divide By A 1-Digit Whole Number
		6.5 Divide By A 2-Digit Whole Number
		6.6 Use Number Sense To Divide Decimals
		6.7 Divide By A Decimal
		6.8 Continue To Divide With Decimals
		6.9 Reasoning
		
		Vocabulary:
		~Review Previous Vocabulary~
		
		Assessments:
		
		Formative
		Topic Readiness Test
		Teacher Observation
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Trimester 2	**Topic:** Topic 7- Use Equivalent Fractions to Add and Subtract Fractions	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Use equivalent fractions as a strategy to add and subtract fractions.

5.NF.A.1
Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*

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

Essential Questions

- How can sums and differences of fractions and mixed numbers be estimated? What are the standard procedures for adding and subtracting fractions and mixed numbers?

Enduring Understanding

- Sums and differences of fractions can be estimated by using benchmarks. You can determine whether each fraction is closest to 0, $\frac{1}{2}$, 1.
  - Example: To estimate $\frac{1}{8} + \frac{5}{6}$
    $\frac{1}{8}$ is closest to 0 and $\frac{5}{6}$ is closest to 1
    The estimated sum would be $0+1 = 1$
- Sums and differences of mixed numbers can be estimated by rounding each mixed number to the nearest whole number.
  - Example: To estimate $4\frac{3}{8} + 2\frac{7}{9}$
    $\frac{3}{8}$ is less than $\frac{1}{2}$, $\frac{7}{9}$ is greater than $\frac{1}{2}$
    $4\frac{3}{8} + 2\frac{7}{9}$ rounds to $4 + 3 = 7$
- When adding and subtracting fractions, re-write as equivalent fractions with like denominators first.
  - Example: To solve $\frac{3}{4} - \frac{1}{3}$, rewrite as $\frac{9}{12} - \frac{4}{12} = \frac{5}{12}$
- One way to add or subtract mixed numbers is to find equivalent fractions with a common denominator. Sometimes when subtracting, numbers or fractions need to be renamed.
  - Examples: $1\frac{3}{4} = 1\frac{6}{8}$ $\quad 3 = 2\frac{4}{4}$

    $+1\frac{5}{8} = 1\frac{5}{8}$ $\quad -1\frac{1}{4} = 1\frac{1}{4}$

    $2\frac{11}{8} = 3\frac{3}{8}$ $\quad 1\frac{3}{4}$

enVision math 2.0

7.1 Estimate Sums and Differences of Fractions
7.2 Find Common Denominators
7.3.Add Fractions with Unlike Denominators
7.4 Subtract Fractions with Unlike Denominators
7.5 Add and Subtract Fractions
7.6 Estimate Sums and Differences of Mixed Numbers
7.7 Use Models To Add Mixed Numbers
7.8 Add Mixed Numbers
7.9 Use Models To Subtract Mixed Numbers
7.10 Subtract Mixed Numbers
7.11 Add and Subtract Mixed Numbers
7.12 Model With Math

Vocabulary:

- benchmark fraction
- equivalent fractions
- common denominator
- mixed number

Assessments:

Formative
Topic Readiness Test
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Performance Tasks

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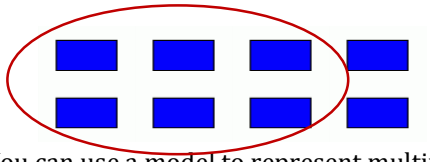
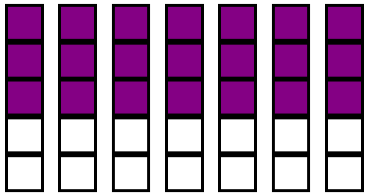
Trimester 3	**Topic:** Topic 8- Apply Understanding of Multiplication to Multiply	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Apply and extend previous understandings of multiplication and division. 5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 5.NF.B.4.A Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* 5.NF.B.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. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. 5.NF.B.5 Interpret multiplication as scaling (resizing), by: 5.NF.B.5.A Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.	**Essential Questions** • What does it mean to multiply whole numbers and fractions? How can multiplication with whole numbers and fractions be shown using models and symbols? **Enduring Understanding** • To multiply a fraction by a whole number means to find the value for a fraction of a whole number $\frac{3}{4} \times 8 = 6$  • You can use a model to represent multiplying a whole number by a fraction. ○ Example: To multiply $7 \times \frac{3}{5}$: each whole is divided into fifths. Three equal parts of each whole are highlighted to model the product. $7 \times \frac{3}{5} = \frac{21}{5}$ or $4\ \frac{1}{5}$ 	**Materials:** enVision math 2.0 8.1 Use Models to Multiply a Whole Number by a Fraction 8.2 Use Models to Multiply a Fraction by a Whole Number 8.3.Multiply Fractions and Whole Numbers 8.4 Use Models to Multiply Two Fractions 8.5 Multiply Two Fractions 8.6 Area of a Rectangle 8.7 Multiply Mixed Numbers 8..8 Multiplication as Scaling 8.9 Make Sense and Persevere **Vocabulary:** ~Review Previous Vocabulary~ **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

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5.NF.B.5.B Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. 5.NF.B.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.		

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Trimester 3	**Topic:** Topic 9- Applying Understanding of Division to Divide Fractions	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Apply and extend previous understandings of multiplication and division.

5.NF.B.3
Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). 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. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

5.NF.B.7
Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

5.NF.B.7.A
Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, 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) × 4 = 1/3.*

Essential Questions

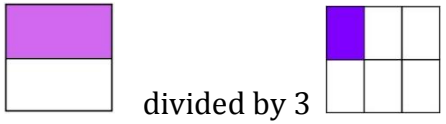
- How are fractions related to division? How can you divide with whole numbers and unit fractions?

Enduring Understanding

- To divide a whole number by a fraction means to find out how many of the fraction parts there are in the whole.
  - Example: $3 \div \frac{1}{4}$ means, how many $\frac{1}{4}$'s are there in 3?
    $3 \div \frac{1}{4} = 3 \times \frac{4}{1} = 12$

- To divide a fraction by a whole number means to find the original fraction of a whole and separate it into a certain number of equal parts.
  - Example: $\frac{1}{2} \div 3$ means, when you divide half of a whole into 3 equal parts, what fraction of the original whole is ***each part*** ?

$\frac{1}{2} \div 3 = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$



$\frac{1}{2} \div 3 = \frac{1}{6}$

Materials:
enVision math 2.0

9.1 Fractions and Division
9.2 Fractions and Mixed Numbers as Quotients
9.3.Use Multiplication to Divide
9.4 Divide Whole Numbers by Unit Fractions
9.5 Divide Unit Fractions by Non-Zero Whole Numbers
9.6 Divide Whole Numbers and Unit Fractions
9.7 Solve Problems Using Division
9.8 Repeated Reasoning

Vocabulary:

- unit fraction

Assessments:

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5.NF.B.7.B Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, 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 × (1/5) = 4.* 5.NF.B.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. *For example, 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?*		

Curriculum Mapping
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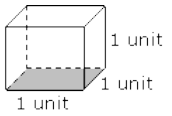
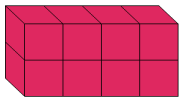
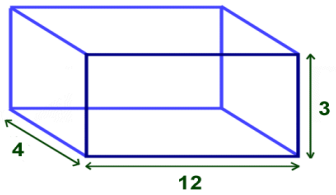
Trimester 3	**Topic:** Topic 10- Understand Volume Concepts	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Geometric measurement: understand concepts of volume. 5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. 5.MD.C.3.A A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. 5.MD.C.3.B A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units. 5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. 5.MD.C.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. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.	**Essential Questions** • What is the meaning of volume of a solid? How can the volume of a rectangular prism be found? **Enduring Understanding** • Volume is the number of cubic units needed to fill a solid figure.   8 unit cubes • For a rectangular prism. Use the formula: Volume = (length x width) x height or Volume = Area x height ○ **Example:** Find the volume of a rectangular prism with a length of 12, a width of 4, and a height of 3.  V = 12 x 4 x 3 = 144 The volume is 144 cubic units	**Materials:** enVision math 2.0 10.1 Model Volume 10.2 Develop a Volume Formula 10.3 Volume of Prisms 10.4 Combine Volumes of Prisms 10.5 Solve Word Problems Using Volume 10.6 Use Appropriate Tools **Vocabulary:** ➢ volume ➢ cube ➢ cubic unit ➢ unit cube ➢ rectangular prism ➢ formula **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

5.MD.C.5.B Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. 5.MD.C.5.C Recognize volume as additive. Find 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.		

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Trimester 3	**Topic:** Topic 11- Convert Measurements	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Understand the place value system.

5.NBT.A.2
Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5.NBT.B.5
Fluently multiply multi-digit whole numbers using the standard algorithm.
5.NBT.B.6
Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Convert like measurement units within a given measurement system.

5.MD.A.1
Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Essential Questions

- What are the customary measurement units and how are they related? What are the metric units and how are they related?

Enduring Understanding

- Customary units of length include: inch, foot, yard, mile. 1 ft = 12 in. , 1 yd = 3 ft = 36 in., 1 mi = 1,760 yd = 5, 280 ft
  Larger ⟶ smaller units**, multiply**
  Smaller ⟶ larger **units, divide**
  - **Example:**
    7 ft = ☐ in.; 7 x 12 = 84. So, 7 ft = 84 in.
- Customary units of capacity include: ounce, pound, ton. 1 T = 2,000 lb, 1 lb = 16 oz
  - **Example:**
    8 pt = ☐ qt; 8 ÷ 2 =4. So, 8 pt = 4 qt.
- Customary units of weight include: fluid ounce, cup, pint, quart, gallon . 1 gal = 4 qt, 1 qt = 2 pt, 1 pt = 2 c, 1 c = 8 fl oz.
  - **Example:**
    4T = ☐ lb; 4 x 2,000 = 8,000.
    So, 4T = 8,000 lb.
- Metric units of length include: millimeter, centimeter, meter, kilometer.
  1 km = 1,000 m , 1 m = 100 cm, 1 cm = 10 mm
  - **Example:**
    600 cm = ☐ m; 600 ÷ 100 = 6.
    So, 600 cm = 6 m.
- Metric units of capacity include: milliliter & liter.
  1 L = 1,000 ml
  - **Example:**
    9L = ☐ ml; 9 x 1,000 = 9,000.
    So, 9L = 9,000 ml.
- Metric units of mass include: milligram, gram,. Kilogram. 1,000 mg = 1 g. 1,000 g = 1 kg
  - **Example:**
    3,000 g = ☐ kg; 3,000 ÷ 1,000 = 3.
    So, 3,000 g = 3 kg

Materials:
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11.1 Convert Customary Units of Length
11.2 Convert Customary Units of Capacity
11.3.Convert Customary Units of Weight
11.4 Convert Metric Units of Length
11.5 Convert Metric Units of Capacity
11.6 Convert Metric Units of Mass
11.7 Solve Word Problems Using Measurement Conversions
11..8 Precision

Vocabulary:

- inch (in.)
- foot (ft.)
- yard (yd.)
- mile (mi)
- capacity
- cup (c)
- Fluid ounce (fl. oz.)
- pint (pt.)
- quart (qt.)
- gallon (gal)
- weight
- ton (T)
- pound (lb.)
- ounce (oz.)
- kilometer (km)
- meter (m)
- centimeter (cm)
- millimeter (mm)
- liter (L)
- milliliter (mL)
- mass
- milligram (mg)
- gram (g)
- kilogram

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Trimester 3	**Topic:** Topic 12- Represent and Interpret Data	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Use equivalent fractions as a strategy to add and subtract fractions. 5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.* **Apply and extend previous understandings of multiplication and division.** 5.NF.B.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. **Represent and interpret data.** 5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, 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.*	**Essential Questions** • How can line plots be used to represent data and answer questions? **Enduring Understanding** • In a line plot, each dot or X stands for 1 time the value occurs. ○ Example: Which value occurred most often? $9\frac{1}{4}$ ft. has the most dots and occurred the most often. • Line plots are used to analyze and compare data. ○ Example: How many plants grew 1 inch or more? Five ○ Example: How many inches did all nine plants grow? $(3 \times \frac{1}{2}) + \frac{3}{4} + (2 \times 1) + (2 \times 1\frac{1}{4}) + 1\frac{1}{2} = 8\frac{1}{4}$ inches	**Materials:** enVision math 2.0 12.1 Analyze Line Plots 12.2 Make Line Plots 12.3 Solve Word Problems Using Measurement Data 12.4 Critique Reasoning **Vocabulary:** ➢ line plot ➢ data ➢ outlier **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

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Trimester 3	**Topic:** Topic 13 – Write and Interpret Numerical Expressions	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Write and interpret numerical expressions. 5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. 5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*	**Essential Questions** • How is the value of a numerical expression found? **Enduring Understanding** • Use the order of operations to evaluate an expression. 1. Do the operations inside the parenthesis. 2. Multiply and divide in order from left to right. 3. Add and subtract in order from left to right. ○ Example: $4 \times 9 + 2 - (6 \times 5) \div 3$ $4 \times 9 + 2 - 30 \div 3$ $36 + 2 - 10$ $38 - 10 = 28$ • Write numerical expressions by using numbers and symbols to represent problems. ○ Example: Misbah and Jessica are caretakers for dogs. Every day, Misbah feeds 4 dogs and Jessica feeds 5 dogs. Each dog need $3\frac{1}{2}$ cups of dog food. Write a numerical expression to show how much dog food is used. The number of dogs: $4 + 5$ The sum of the number of dogs times $3\frac{1}{2}$ $(4 + 5) \times 3\frac{1}{2}$ Now evaluate the expression: $31\frac{1}{2}$	**Materials:** enVision math 2.0 13.1 Order of Operations 13.2 Evaluate Expressions 13.3 Write Numerical Expressions 13.4 Interpret Numerical Expressions 13.5 Reasoning **Vocabulary:** ➢ numerical expression ➢ evaluate ➢ order of operations ➢ parentheses ➢ brackets ➢ braces **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks

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Trimester 3	**Topic:** Topic 14 – Graph Points on the Coordinate Plane	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Graph points on the coordinate plane to solve real-world and mathematical problems.

5.G.A.1
Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).

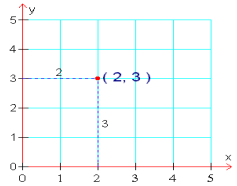
5.G.A.2
Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Essential Questions

- How are points plotted? How are the relationships shown on a graph?

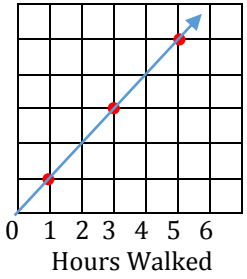
Enduring Understanding

- Points are graphed on a grid with a horizontal x-axis and a vertical y-axis. The location is named using an ordered pair of numbers.
  - Example: Graph Point A (2,3)
    (2,3) x coordinate distance from the origin (0,0) along the x-axis
    y coordinate distance from the origin along the y-axis.



- Related information in a table can be used as ordered pairs and then graphed on a coordinate grid.
  - Example: Don walked 3 miles each hour on a hike. Use the table to find how many miles he walked after 4 hours.

Hours Walked	Miles Walked	
1	3	(1,3)
3	9	(3,9)
5	15	(5,15)



Materials:
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14.1 The Coordinate System
14.2 Graph Data Using Ordered Pairs
14.3 Solve Problems Using Ordered Pairs
14.4 Reasoning

Vocabulary:

- coordinate grid
- x-axis
- y-axis
- origin
- ordered pair
- x-coordinate
- y-coordinate

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Trimester 3	**Topic:** Topic 15 – Algebra: Analyze Patterns and Relationships	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**

Analyze patterns and relationships.

5.OA.B.3
Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Graph points on the coordinate plane to solve real-world and mathematical problems.

5.G.A.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.

Essential Questions

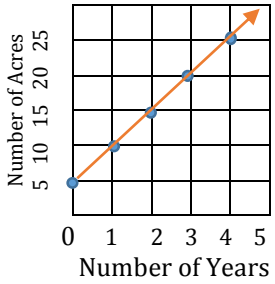
- How can number patterns be analyzed and graphed? How can number patterns and graphs be used to solve problems?

Enduring Understanding

- Number patterns can be analyzed by finding a rule that identifies the relationship between numbers in a sequence.
  - Example: Aiden has 5 acres of corn planted and he will add 5 acres of corn every year. The table below illustrates the rule "Add 5".

Corn						
Years	0	1	2	3	4	5
Acres	5	10	15	20	25	30

- Corresponding terms are used as the x- and y-coordinates on a graph. The graph provides a convenient way to compare number patterns and solve real world problems.
  - Example: If Aiden continues to add 5 acres of corn every year, how many acres of corn will he have after 5 years? As shown on the graph, he will have 30 acres of corn.



Materials:
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15.1 Numerical Patterns
15.2 More Numerical Patterns
15.3 Analyze and Graph Relationships
15.4 Make Sense and Persevere

Vocabulary:
- number sequence
- corresponding terms

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Trimester 3	**Topic:** Topic 16 – Geometric Measurement:Classify 2-Dimensional Figures	
Objectives/CPI's/Standards	**Essential Questions/Enduring Understandings**	**Materials/Assessment**
Classify two-dimensional figures into categories based on their properties. 5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles. 5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.	**Essential Questions** • How can triangles and quadrilaterals be described, classified, and named? **Enduring Understanding** • Polygons can be described by their attributes, such as the number of sides or vertices hey have. o Example: Triangles have 3 sides. Quadrilaterals have 4 sides. Pentagons have 5 sides. Hexagons have 6 sides. Octagons have 8 sides. • Quadrilaterals can be classified by their angles or pairs of sides, o Example: Trapezoids have only 1 pair of parallel sides. Parallelograms have both pairs of opposite sides parallel. • One way to classify triangles is by their angle measurement: right, acute, or obtuse. o Example: A right triangle has one right angle. An acute triangle has three acute angles. An obtuse triangle has one obtuse angle. • Another way to classify triangles is by their side lengths; equilateral, isosceles and scalene. o Example: An equilateral triangle has 3 sides that are the same length. An isosceles triangle has 2 sides that are the same length. A scalene triangle has no sides that are the same length. • Some quadrilaterals can be special types of another quadrilateral. o Example: A rhombus is a special kind of parallelogram because not only does it have both pairs of opposite sides parallel, it also has all 4 sides the same length.	**Materials:** enVision math 2.0 16.1 Classify Triangles 16.2 Classify Quadrilaterals 16.3 Continue to Classify Quadrilaterals 16.4 Construct Arguments **Vocabulary:** ➢ equilateral triangle ➢ isosceles triangle ➢ scalene triangle ➢ right triangle ➢ acute triangle ➢ obtuse triangle ➢ parallelogram ➢ trapezoid ➢ square ➢ rectangle ➢ rhombus **Assessments:** **Formative** Topic Readiness Test Teacher Observation Daily Quick check Masters **Summative** Topic Tests Performance Tasks