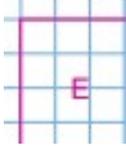
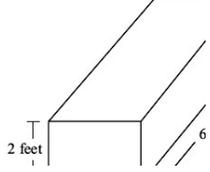
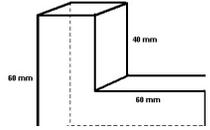


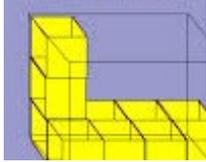
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Grade Five Curriculum Map

Essential Questions	Enduring Understandings	Domain & Practices (SMP)	Cluster	Standard	Learning Targets	Assessment Formative and Summative	Inter-disciplinary Connections	21 st Century Connections
Unit 1 - Area and Volume						Common Written Assessment, Open Response Question		
Pacing - 22 days								
Why express quantities, measurements, and number relationships in different ways?	Everyday objects have a variety of attributes, each of which can be measured in many ways.	<p>Number and Operations - Fractions</p> <p>SMP 1 - Make sense of problems and persevere in solving them.</p> <p>SMP 3 - Construct viable arguments and critique the reasoning of others.</p> <p>SMP 4 - Model with mathematics.</p>	Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	5.NF.4B - 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.	<p>Identify area of rectangle.</p> <p>Understand and know how to use the area formula for a parallelogram (area = $b \cdot h$)</p> <p>Solve applied problems about the area of various models using multiplication and division.</p> <p>Determine the area of rectangles with fractional side lengths by multiplying the side lengths.</p>	<p>Find the area of model provided.</p> <p>Include correct units of measurement.</p> <p>Explain your reasoning.</p> 	RI.5.4 - Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area	<p>9.1.8.A.1 - Develop strategies to reinforce positive attitudes and productive behaviors that impact critical thinking and problem-solving skills.</p> <p>9.1.8.B.1 - Use multiple points of view to create alternative solutions</p>
<p>Why does “what” we measure influence “how” we measure?</p> <p>How do you find the volume of a cube or a</p>	<p>Everyday objects have a variety of attributes, each of which can be measured in many ways.</p> <p>Use models to correctly identify volume.</p>	<p>Measurement and Data</p> <p>SMP 1 - Make sense of problems and persevere in solving them.</p> <p>SMP 3 - Construct viable arguments and critique the reasoning of</p>	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	<p>5.MD.3 - Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <p>5.MD.3a - 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.</p>	<p>Identify volume of a rectangular prism.</p> <p>Understand and know how to use the volume formula for a parallelogram (volume = bwh)</p>	<p>Find the volume of model provided.</p> <p>Include correct units of measurement.</p> <p>Explain your reasoning.</p>		<p>9.1.8.B.2 - Assess data gathered to solve a problem for which there are varying perspectives (e.g., cross-cultural, gender-specific, generational), and determine</p>

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rectangle?		<p>others.</p> <p>SMP 4 - Model with mathematics.</p>		<p>5.MD.3b - 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.</p> <p>5.MD.4 - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units.</p> <p>5.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. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.</p> <p>5.MD.5.b - Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right</p>	<p>Solve applied problems about the volume of various models using multiplication and division.</p> <p>Know the units of measure of volume.</p>	 <p>Find the volume of the figure provided.</p> 		<p>how the data can best be used to design multiple solutions.</p>

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				rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.				
Why does “what” we measure influence “how” we measure? How do you find the volume of a cube or a rectangle?	Everyday objects have a variety of attributes, each of which can be measured in many ways. Use models to correctly identify volume.	Measurement and Data SMP 3 -Construct viable arguments and critique the reasoning of others. SMP 4 - Model with mathematics.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5.MD.5.c - Recognize volume as additive. Find the volumes of solid figures composed of two non-overlapping right rectangular by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	Use unit cubes to determine the volume of a rectangular prism.	Use unit cubes to calculate the volume of the figure provided. 		
Unit 2- Whole Number Place Value and Operations Pacing- 22 Days						Common Written Assessment, Open Response Question		
How do operations affect numbers? What patterns can we identify in the places of	Operations create relationships between numbers Patterns provide insights into potential	Number and Operations - Base Ten	Understand the place value system	5.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.	Use the powers of ten system to understand place value and solve computations involving whole numbers and decimals.	Complete a table using both standard notation and exponential notation. (Example: $1,000=10 *10*10=10^3$)	RI.5.4 - Determine the meaning of general academic and domain-specific words and phrases in a text relevant	

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numbers? How are patterns recognized and explained when using the powers of ten system?	relationships	Operations and Algebraic Thinking SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively. SMP 6 - Attend to precision.	Write and interpret numerical expressions	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.	Illustrate and explain a pattern for how the number of zeroes of a product-when multiplying a whole number by the power of 10-relates to the power of 10 (e.g., 500-which is a 5 x 100, or 5 x 10 ² has two zeroes in its product).	What number is equal to 104 and explain how you know.	to a grade 5 topic or subject area	
				5.OA.1 - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	Evaluate numerical expressions with parentheses, brackets, or braces.	Evaluate the following expression: $\{[(2+3) * 2] +3\} * 2$		
				5.OA.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 $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.	Analyze expressions without solving.	Miles has n baseball cards. He keeps the same number of cards in each of three boxes. What expression represents the number of baseball cards Miles can put in each box? Use what you know about expressions to explain why your answer is correct.		

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What makes a computational strategy both effective and efficient?	Understanding the meaning and the appropriate use of numerical operations promotes computational fluency	Number and Operations - Base Ten SMP 2 - Reason abstractly and quantitatively.	Perform operations with multi-digit whole numbers and with decimals to hundredths.	5.NBT.5 - Fluently multiply multi-digit whole numbers using the standard algorithm.	Use the standard algorithm to multiply multi-digit whole numbers.	Create an estimate for the following multiplication problem: $56 * 81 =$ Solve using the traditional algorithm. Use your estimate to check the reasonableness of the solution.	L.5.4 - Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies	9.1.8.C.3 - Model leadership skills during classroom and extracurricular activities
				5.NBT.6 - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models	Use an effective division algorithm to divide multi-digit dividends.	Create an estimate for the following division problem: $1,440/30 =$ Solve using a division strategy. Use your estimate to check the reasonableness of the solution.		
Unit 3- Fraction Concepts, Addition, and Subtraction Pacing -23 days						Common Written Assessment, Open Response Question		
Why express quantities, measurements, and number	Fractions and decimals allow for quantities to be expressed	Number and Operations - Fractions	Use equivalent fractions as a strategy to add and subtract	5.NF.1 - Add and subtract fractions with unlike denominators (including mixed	Create equivalent fractions.	Rename $2 \frac{1}{3}$ to an improper fraction. Write five	RI.5.4 - Determine the meaning of general	

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relationships in different ways?	with greater precision than with just whole numbers.	SMP 2 - Reason abstractly and quantitatively.	fractions	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. <i>For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)</i>		equivalent fractions for $\frac{10}{12}$.	academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area	
				Add and subtract fractions with unlike denominators using manipulatives and models	Add $\frac{1}{4} + \frac{2}{12}$. Show your work.			
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.	Number and Operations - Fractions SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively.	Use equivalent fractions as a strategy to add and subtract fractions	5.NF.2 - Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$</i>	Solve addition and subtraction word problems involving fractions using visual models or equations	Write an addition or subtraction number story with an answer of $\frac{1}{2}$.		9.1.8.D.3 - Use effective communication skills in face-to-face and online interactions with peers and adults from home and from diverse cultures.
					Use estimation strategies, benchmark fractions and number sense to check if my answer is reasonable	Write a fraction to make the number sentence true. Explain the strategy used. $\underline{\quad} + \frac{1}{8} > 2$ $4 - \underline{\quad} > 1 \frac{1}{3}$		
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole	Number and Operations - Fractions SMP 1 - Make sense of problems and persevere in	Apply and extend previous understandings of multiplication and division to	5.NF.3 - Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a \div b$). Solve word problems involving division of whole numbers leading	Explain that fractions ($\frac{a}{b}$) can be represented as a division of the numerator by the denominator and illustrate why.	What is the relationship between $\frac{7}{8}$ and $7 \div 8$?		

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	numbers.	solving them. SMP 2 - Reason abstractly and quantitatively.	multiply and divide fractions	to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	Solve word problems involving the division of whole numbers and interpret the quotient - which could be whole numbers, mixed number or fraction - in the context of the problem.	Ten fifth graders shared 2 liters of juice equally after the track meet. How much juice did each student get?		
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.	Number and Operations - Fractions SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.4a - 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 $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)	Solve word problems involving the product of a whole number and a fraction	The parent association purchased 240 water bottles for the school carnival. Students drank $3/4$ of them. How many water bottles did they drink? Draw a model or write an equation to show how you got the solution.		
Unit 4 - Decimal Concepts; Coordinate Grids						Common Written Assessment, Open Response Question		
Pacing - 22 Days								
How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers.	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively. SMP 7 - Look for	Understand the place value system.	5.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.	Recognize that in a multi-digit number that each place to the right is $1/10$ as much	Change the number 8.432 by -Making the 4 worth ten times as much -Making the 8 worth $1/10$ as much		

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		and make use of structure.						
How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers.	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively. SMP 7 - Look for and make use of structure.	Understand the place value system.	5.NBT.3 - Read, write, and compare decimals to thousandths. 5.NBT.3a - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.	Read and write decimals to the thousandths in word form, base-ten numerals, and expanded form.	Write 4.832 in words and in standard notation.		
How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers.	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively.	Understand the place value system.	5.NBT.3b - Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.	Comparing decimals to the thousandths by using place value and using the comparison using symbols $<$, $>$, or $=$.	Fill in the blanks with $>$, $<$ or $=$ 2.789 <u> </u> 11.3 6.007 <u> </u> 6.07 4 <u> </u> 4.000		
How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers.	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively.	Perform operations with multi-digit whole numbers and with decimals to hundredths	5.NBT.4 - Use place value understanding to round decimals to any place.	Round decimals numbers	Round 2.106 to the nearest hundredth. Explain your process.	RI.5.4 - Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area	

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How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric relationships provide a means to make sense of a variety of phenomena.	Geometry SMP 7 - Look for and make use of structure.	Graph points on the coordinate plane to solve real-world and mathematical problems	5.G.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).	Recognize that the horizontal axis is labeled as the x-axis and the vertical axis is labeled as the y-axis.	Draw and label a coordinate plane.		
					Graph and name/label coordinate pairs.	Graph the ordered pairs (5, 2) and (3,6). Give the coordinates of the point that is one to the left and three up from the point (5,2).	SL.5.1c - Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.	
					Explain the relationship between the ordered pair and the location on the coordinate plane.	Draw a picture on a coordinate grid and list the coordinates of the points plotted in order. Trade coordinates with a partner and draws each other's picture. Check for accuracy.	SL.5.3 - Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.	
How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric relationships provide a means to make sense of a variety of phenomena.	Geometry SMP 2 - Reason abstractly and quantitatively. SMP 7 - Look for and make use of structure.	Graph points on the coordinate plane to solve real-world and mathematical problems	5.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.	Relate the coordinate values of any graphed point to the context of the problem.	Graph and label the following points on a coordinate grid: M & T at (0,3). Camden Yards at (0,5). National Aquarium at (8,6). Maryland Science Center at (5,3)		

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						Walter's Art Museum (4,14). Name a landmark located south of the National Aquarium. Explain how you can tell that this landmark is south of the Aquarium just by looking at its coordinate points.		
		Operations and Algebraic Thinking SMP 2 - Reason abstractly and quantitatively. SMP 3 - Construct viable arguments and critique the reasoning of others. SMP 4 - Model with mathematics. SMP 5 - Use appropriate tools strategically.	Analyze patterns and relationships	5.OA.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.	Use a table data to create line graphs.	Chocolate Chip Cookies need to bake for 9 minutes in the oven. Oatmeal cookies need to bake for 12 minutes in the oven. Create a table for each type of cookie that shows the rule for the baking time. Graph the resulting coordinate pairs on a coordinate plane. How long will it take to make 4 batches of each cookie? Explain how you know.		

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How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers.	Number and Operations in Base Ten SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively. SMP 4 - Model with mathematics.	Perform operations with multi-digit whole numbers and with decimals to hundredths	5.NBT.7 - Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	Add and subtract decimals to hundredths using strategies based on place value, properties of operations, or other strategies	Ed bought a drink for \$1.50 and a sandwich for \$2.75. He has \$13.50 left. How much did he start with?		9.1.8.D.3 - Use effective communication skills in face-to-face and online interactions with peers and adults from home and from diverse cultures.
					Explain and illustrate strategies using concrete models or drawing when adding or subtracting decimals to hundredths.	Use a hundreds grid to show the sum of $0.33 + 0.29$.		
Mid-Year Assessment 1 Day								
Unit 5 - Operations with Fractions Pacing – 23						Written Assessment, Open Response Question		
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Use equivalent fractions as a strategy to add and subtract fractions	5.NF.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, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)	Create equivalent fractions	Create three equivalent fractions for $\frac{1}{3}$ and $\frac{2}{5}$		
					Add and subtract fractions with unlike denominators (including mixed numbers) using equivalent fractions	Robert solve the following problem: $\frac{1}{4} + \frac{5}{6} = \frac{6}{10}$ Is Robert correct? Explain how you know.		

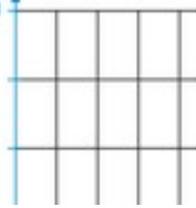
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Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.	<p>Number and Operations - Fractions</p> <p>SMP 1 - Make sense of problems and persevere in solving them.</p> <p>SMP 2 - Reason abstractly and quantitatively.</p> <p>SMP 3 - Construct viable arguments and critique the reasoning of others.</p>	Use equivalent fractions as a strategy to add and subtract fractions	5.NF.2 - Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.	Solve addition and subtraction word problems involving fractions using visual models or equations.	Connie ran $3/4$ of a mile on Saturday and $5/6$ of a mile on Sunday. How many miles did she run over the weekend? If she wants to run a total of 3 miles before Tuesday, how much farther does she need to run? Explain, or create a model, to show how you solved the problem.	SL.5.1c - Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.	
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.	<p>Number and Operations - Fractions</p> <p>SMP 1 - Make sense of problems and persevere in solving them.</p> <p>SMP 2 - Reason abstractly and quantitatively.</p> <p>SMP 3 - Construct viable arguments and critique the reasoning of others.</p>	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.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	Solve word problems involving division of whole numbers with fractions or mixed numbers as a quotient	Amy has 5 meters of yarn. She wants to cut the year into $1/4$ meter pieces to make bracelets with her friends. If she uses all 5 meters of yarn, how many $1/4$ meter pieces with Amy have? Provide the solution, number model and check using multiplication.		

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				among 4 people each person has a share of size $\frac{3}{4}$. 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?				
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.4 - Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.	Multiply a fraction or whole number by a fraction.	Find the product: $\frac{1}{5} \times \frac{2}{3} =$		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.4a - Interpret the product $(\frac{a}{b}) \times q$ 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 $(\frac{2}{3}) \times 4 = \frac{8}{3}$, and create a story context for this equation. Do the same with $(\frac{2}{3}) \times (\frac{4}{5}) = \frac{8}{15}$. (In general, $(\frac{a}{b}) \times (\frac{c}{d}) = \frac{ac}{bd}$.)	Create story contexts for problems involving multiplication of a fraction and a whole number	Write a story to go with the expression below and draw a visual representation to show the solution. $\frac{3}{4} \times 3$		
How do operations	The magnitude of numbers	Number and Operations -	Apply and extend	5.NF.4b - Find the area of a rectangle with	Determine the area of rectangles with	Shade a $3 \frac{1}{2}$ by 2 rectangle. Find the		

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affect numbers?	affects the outcome of operations on them	Fractions SMP 2 - Reason abstractly and quantitatively.	previous understandings of multiplication and division to multiply and divide fractions	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.	fractional side lengths by multiplying the side lengths.	area of the rectangle. Create a multiplication number sentence. 		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.5 - Interpret multiplication as scaling (resizing), by: 5.NF.5a - 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.	Interpret the relationship between the size of the factors to the size of the product.	Look at the two expressions. Which expression has a greater value? How do you know? $8 \frac{1}{2} * 2$ $\frac{1}{2} * 8$		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.5 - Interpret multiplication as scaling (resizing), by: 5.NF.5b - 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);	Explain the result of multiplying whole numbers by fractions	Will the product of $3 * \frac{1}{2}$ be larger than 3 or less than three? How do you know?		

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				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 $\frac{a}{b} = \frac{n \times a}{n \times b}$ to the effect of multiplying $\frac{a}{b}$ by 1.				
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.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.	Solve word problems which require the multiplication of fractions and mixed numbers	Heather has a recipe that makes one dozen carrot walnut muffins. She wants to make $3\frac{1}{2}$ dozen muffins. The original recipe calls for $\frac{3}{4}$ cup of skim milk and $1\frac{1}{8}$ cup of grated carrots. How much skim milk does she need for $3\frac{1}{2}$ dozen muffins? Solve and explain or illustrate the strategy used.		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.7 - Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. 5.NF.7a - Interpret division of a unit fraction	Create story contexts for problems involving division of a unit fraction by a whole number	Use the following expression $\frac{1}{5} \div 4$ to create a number story. Explain or illustrate strategy you would use to solve the problem. Based on the number story you created, use		

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				<p>by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</p> <p>5.NF.7b - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$</p>		multiplication to check your work.		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them	Number and Operations - Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understandings of multiplication and division to multiply and divide	5.NF.7c - 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	Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, and interpret the quotient	The supermarket baker is making chocolate chip cookies. She has 5 pounds of chocolate chips. She needs $\frac{1}{4}$ pound to make one tray of cookies. How		

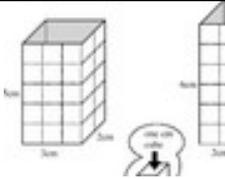
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			fractions	and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?	in the context of the problem.	many trays of chocolate chip cookies can she make? Use what you know about fractions to explain why your answer is correct.		
Unit 6 - Investigations in Measurement; Decimal Multiplication and Division Pacing 22 days						Common Written Assessment, Open Response Question		
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively.	Understand the place value system.	5.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.	Understand how a digit's place in a number effects the value of the digit	Look at the numbers 184.36 and 9,027.83 In which number does 8 have the smaller value? How many times smaller is it? Use what you know about place value to explain your reasoning.		
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively.	Understand the place value system.	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	Use place value understanding to multiply decimals by powers of ten	$13.5 \div 10 =$ $13.5 \div 100 =$ $13.5 \div 1,000 =$ Where did you place the decimal in your answer to the last problem? Explain how you knew where to place the decimal.		

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				powers of 10.				
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 1- Make sense of problems and persevere in solving them. SMP 3 - Construct viable arguments and critique the reasoning of others.	Perform operations with multi-digit whole numbers and with decimals to hundredths.	5.NBT.7 - Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	Solve word problems involving decimal computation.	Kyle can earn \$6.75 an hour doing yard work. How much can he earn in 7 hours? Washing cars, Kyle can earn \$7.25 per hour. Would he make more money washing cars for 6 hours or doing yard work for 7 hours? Explain your thinking.		
Why does “what” we measure influence “how” we measure?	Measurement processes are used in everyday life to describe and quantify the world.	Measurement and Data SMP 7 - Look for and make use of structure.	Convert like measurement widths within a given measurement system	5.MD.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.	Convert measurement units within the same measurement system. (e.g., 24 inches to 2 feet).	Caroline has 6.9 L of lemonade to serve 30 people. How many milliliters should she pour into each glass?		
Why display data in different ways?	Data displays describe and represent data in alternative ways	Measurement and Data SMP 3 - Construct viable arguments and critique the reasoning of others. SMP 4 - Model with mathematics.	Represent and interpret data	5.MD.2 - Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). 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	Create a line plot with a given set of unit fraction measurements. Solve problems using data on line plots.	Create a line plot using the running data below and then answer the questions. Sarah: $1\frac{6}{8}$ miles Donna: $2\frac{1}{4}$ miles Bob: 2 miles Scott: $1\frac{1}{4}$ miles Brienne: $1\frac{1}{2}$ miles Carrie: $1\frac{2}{4}$ miles		

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				beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.		What is the difference between the longest distance and shortest distance? Which two people ran the same distance? How do you know?		
How can measurements be used to solve problems?	Measurements can be used to describe, compare, and make sense of phenomena.	Measurement and Data SMP 3 - Construct viable arguments and critique the reasoning of others. SMP 4 - Model with mathematics.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5.MD.3 - Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	Identify volume as an attribute of a solid figure	 <p>What is the volume of Box A in cubic centimeters? Which box can hold more? Show your work and explain your thinking.</p>		
How can measurements be used to solve problems?	Measurements can be used to describe, compare, and make sense of phenomena.	Measurement and Data SMP 3 - Construct viable arguments and critique the reasoning of others. SMP 4 - Model with mathematics.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5.MD.5 - Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.	Apply the formulas of volume to real world problems	In building a model town, Joe constructed two different rectangular prism shaped buildings each with a volume of 18cm^3 . The buildings were joined to make one solid figure with no overlapping parts. What might Joe's buildings have looked like?		

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How can measurements be used to solve problems?	Measurements can be used to describe, compare, and make sense of phenomena.	Measurement and Data SMP 3 - Construct viable arguments and critique the reasoning of others. SMP 4 - Model with mathematics.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5.MD.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.	Measuring volume by displacement.	Jim and Sally build a club house that covers an area of 24 square feet. The flat roof is six feet from the ground. What is the volume of the inside of the club house? What might be the length and width of the club house?		
Unit 7 - Multiplication of Mixed Numbers; Geometry; Graphs						Common Written Assessment, Open Response Question		
Pacing – 22 days								
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations - Fractions SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively. SMP 4 - Model with mathematics.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.4 - Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 5.NF.4a - 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 $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) =$	Create and solve word problems with contexts for problems involving multiplication of a fraction and a whole number	Mikayla filled 9 glasses each with $\frac{2}{3}$ cups of juice. What is the total amount of juice she used? How much juice would Mikayla use if she had 14 glasses?	SL.5.3 - Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.	9.1.8.B.1 - Use multiple points of view to create alternative solutions.

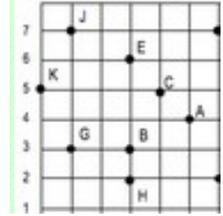
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				8/15. (In general, $(a/b) \times (c/d) = ac/bd.$)				
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	<p>Number and Operations - Fractions</p> <p>SMP 1 - Make sense of problems and persevere in solving them.</p> <p>SMP 2 - Reason abstractly and quantitatively.</p> <p>SMP 4 - Model with mathematics.</p>	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	<p>5.NF.5 - Interpret multiplication as scaling (resizing), by:</p> <p>5.NF.5a - 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.</p> <p>5.NF.5b - 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.</p>	Explain multiplication as scaling (to enlarge or reduce) using a visual model.	A high speed train travels at 300km per hour from London to Paris. If the train traveled at $\frac{7}{8}$ of that speed, would the length of the trip be shorter or longer? Explain your thinking.		
How do mathematical ideas	Numeric fluency includes both the understanding of	Number and Operations - Fractions	Apply and extend previous	5.NF.6 - Solve real world problems involving multiplication	Solve real world problems involving multiplication of	Mrs. Singer lifted 7 boxes into her van. Each box weighed		

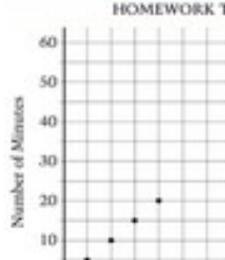
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interconnect and build on one another to produce a coherent whole?	and the ability to appropriately use numbers.	SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively. SMP 4 - Model with mathematics.	understandings of multiplication and division to multiply and divide fractions	of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	fractions and mixed numbers and interpret the product in the context of the problem.	3 ½ pounds. How much do all of the boxes weigh together? Explain or illustrate how you found the total number of pounds Mrs. Singer lifted.		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations - Fractions SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively. SMP 4 - Model with mathematics.	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.7a - Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.	Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions by using visual fraction models or equations that represent the problem.	A jug of water is 1/2 full. If 3 children equally share the water, what fraction of the full jug does each child get? Use a visual fraction model to show to quotient.		
				5.NF.7b - Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between		Students are running in a relay race. Each team will run a total of 3 miles. Each member of a team will run 1/5 of a mile. How many students will a team need to complete the race?		

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				multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$		You may use the number line or visual fraction model to help you find your answer.		
How can we best represent and verify geometric/algebraic relationships?	Coordinate geometry can be used to represent and verify geometric/algebraic relationships.	Geometry SMP 4 - Model with mathematics.	Graph points on the coordinate plane to solve real-world and mathematical problems	5.G.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).	Identify an ordered pair as an x-coordinate followed by a y-coordinate.	 <p>Points G, B and H are all points on a rectangle. What is the ordered pair for the last corner of the rectangle?</p>	RI.5.4 - Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area	

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How can we best represent and verify geometric/algebraic relationships?	Coordinate geometry can be used to represent and verify geometric/algebraic relationships.	Geometry SMP 4 - Model with mathematics.	Graph points on the coordinate plane to solve real-world and mathematical problems	5.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.	Relate the coordinate values of any graphed point to the context of the problem.	 <p>How many minutes did it take her to do 3 problems?</p> <p>If she continued at the same rate, how many problems will she do in 40 minutes?</p>		
How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric properties can be used to construct geometric figures.	Geometry SMP 2 - Reason abstractly and quantitatively.	Classify two-dimensional figures into categories based on their properties	5.G.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.	Classify two-dimensional figures by their attributes.	Use what you know about the attributes of a rectangle to explain why a square is a rectangle.		
How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric properties can be used to construct geometric figures.	Geometry SMP 2 - Reason abstractly and quantitatively.	Classify two-dimensional figures into categories based on their properties	5.G.4 - Classify two-dimensional figures in a hierarchy based on properties.	Explain two-dimensional attributes can belong to several two-dimensional figures.	A parallelogram can be a rectangle. Use what you know about parallelogram and rectangle attributes to explain when this is true.		

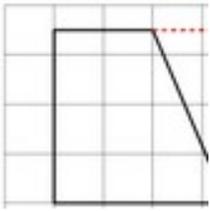
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					Classify quadrangles based on properties.	Draw a quadrilateral that has at least 4 names. Write them below and explain how your know based on the attributes.												
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Coordinate geometry can be used to represent and verify geometric/algebraic relationships.	Operations and Algebraic Thinking SMP 2 - Reason abstractly and quantitatively.	Analyze patterns and relationships	5.OA.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.	Form ordered pairs out of corresponding terms from each pattern and graph them on a coordinate plane.	Rule: number of hours worked * \$12 = earnings <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">x (in) Hours</th> <th style="text-align: center;">y (ou) Earnings</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td></td> </tr> <tr> <td style="text-align: center;">6</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">96</td> </tr> </tbody> </table> Complete the table using the rule. Then, write the ordered pairs. Finally plot your points on the coordinate grid and connect them. over time.	x (in) Hours	y (ou) Earnings	1		2		6			96		
x (in) Hours	y (ou) Earnings																	
1																		
2																		
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How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Coordinate geometry can be used to represent and verify geometric/algebraic relationships.	Operations and Algebraic Thinking SMP 2 - Reason abstractly and quantitatively.	Analyze patterns and relationships	5.OA.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.	Generate two numerical patterns with the same starting number for two given rules.	<p>John and Maren are flying model airplanes. Both planes take off at the same time. John's plane climbs 3 feet every second. Maren's plane climbs 6 feet every second.</p> <table border="1" data-bbox="1451 651 1671 1219"> <thead> <tr> <th data-bbox="1451 651 1545 829">Time (sec)</th> <th data-bbox="1545 651 1640 829">John's distance (feet)</th> <th data-bbox="1640 651 1671 829">Maren's distance (feet)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1451 829 1545 902">0</td> <td data-bbox="1545 829 1640 902"></td> <td data-bbox="1640 829 1671 902"></td> </tr> <tr> <td data-bbox="1451 902 1545 976">1</td> <td data-bbox="1545 902 1640 976"></td> <td data-bbox="1640 902 1671 976"></td> </tr> <tr> <td data-bbox="1451 976 1545 1049">2</td> <td data-bbox="1545 976 1640 1049"></td> <td data-bbox="1640 976 1671 1049"></td> </tr> <tr> <td data-bbox="1451 1049 1545 1122">3</td> <td data-bbox="1545 1049 1640 1122"></td> <td data-bbox="1640 1049 1671 1122"></td> </tr> <tr> <td data-bbox="1451 1122 1545 1195">4</td> <td data-bbox="1545 1122 1640 1195"></td> <td data-bbox="1640 1122 1671 1195"></td> </tr> </tbody> </table> <p data-bbox="1451 1219 1671 1260">Complete the table.</p> <p data-bbox="1451 1260 1671 1300">Write the ordered pairs for each.</p> <p data-bbox="1451 1300 1671 1477">Graph the points on the grid to show both John's and</p>	Time (sec)	John's distance (feet)	Maren's distance (feet)	0			1			2			3			4				
Time (sec)	John's distance (feet)	Maren's distance (feet)																								
0																										
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						Maren's distances		
Unit 8 –Applications of Measurement, Computation, and Graphing						Common Written Assessment, Open Response Question		
Pacing – 22 days								
How does a digit's position affect its value?	How does a digit's position affect its value?	Number and Operations in Base Ten SMP 2 - Reason abstractly and quantitatively.	Perform operations with multi-digit whole numbers and with decimals to hundredths.	5.NBT.5 - Fluently multiply multi-digit whole numbers using the standard algorithm. 5. NBT.7 - Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	Use measurement conversions involving decimals to explain and illustrate a given model.	A ball court is 26 feet 3 inches by 52 feet 6 inches. Rename the dimensions of the court as feet using decimals.		9.1.8.B.1 - Use multiple points of view to create alternative solutions.
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers	Number and Operations- Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understanding of multiplication and division to multiply and divide fractions	5.NF.4 - Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 5.NF.4b - Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit	Apply understanding of rectangular areas to find areas of non-rectangular shapes by dividing the shape into parts and adding those parts' areas.	 <p>What are the dimensions of the rectangle that encloses the triangle? What is</p>		

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				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.		the area of that rectangle? Therefore, what is the area of the triangle? How can we use that information to find the area of the trapezoid?		
Why express quantities, measurements, and number relationships in different ways?	Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers	Number and Operations- Fractions SMP 2 - Reason abstractly and quantitatively.	Apply and extend previous understanding of multiplication and division to multiply and divide fractions	5.NF.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.	Apply length, area, and volume concepts to plan room for a common object	Suppose you have 3 feet of unused wall space in your bedroom. What might be the dimensions of a book case you could build to fit in that space?		
Why does “what” we measure influence “how” we measure?	Measurement processes are used in everyday life to describe and quantify the world.	Measurement and data SMP 2 - Reason abstractly and quantitatively. SMP 4 - Model with mathematics. SMP 7 - Look for and make use of structure.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	5.MD.3 - Recognize volume as an attribute of solid figures and understand concepts of volume measurement. 5.MD.5c - 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.	Solve real world problems involving volume.	The volume of a juice box is about 24 cubic inches. A juice box company wants to design a new juice box. What are some possible dimensions for a juice box? Use pictures, numbers and/or words to show some possibilities. A box 2 centimeters high, 3		9.1.8.B.1 - Use multiple points of view to create alternative solutions.

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 Mathematics Department
 Grade Five Curriculum Map

Essential Questions	Enduring Understandings	Domain & Practices (SMP)	Cluster	Standard	Learning Targets	Assessment Formative and Summative	Inter-disciplinary Connections	21 st Century Connections
						centimeters wide, and 5 centimeters long can hold 40 grams of clay. A second box has twice the height, three times the width, and the same length as the first box. How many grams of clay can it hold?		
Why does “what” we measure influence “how” we measure?	Measurement processes are used in everyday life to describe and quantify the world.	Measurement and data SMP 2 - Reason abstractly and quantitatively. SMP 4 - Model with mathematics. SMP 7 - Look for and make use of structure.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	5.MD.5 - Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. 5.MD.5a - 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	Use volume to solve problems	A fish tank as a volume of 264 cubic inches. What might be the dimensions of the tank? Sketch and label your tank.		

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 Mathematics Department
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				property of multiplication. 5.MD.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.				
Why does “what” we measure influence “how” we measure?	Measurement processes are used in everyday life to describe and quantify the world.	Measurement and data SMP 2 - Reason abstractly and quantitatively.	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	5.MD.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.	Solve multi-step word problems using measurement conversions	Nutritionists recommend drinking eight glasses of water each day. If a glass holds 250 mL, does the recommended daily water intake exceed 1L? Use what you know about metric measurement to explain how you found your answer.	SL.5.4 - Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	
How does a digit’s position affect its value?	Understanding place value can lead to number sense and efficient	Number and Operations- Fractions	Understand the place value system	5.NBT.4 - Use place value understanding to round decimals to any place.	Round decimals to any place	Round the following number to the nearest tenth, hundredth and ten. 143.521		9.2.8.B.1 - Construct a simple personal savings and spending plan

Hillsborough Township Public Schools
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Essential Questions	Enduring Understandings	Domain & Practices (SMP)	Cluster	Standard	Learning Targets	Assessment Formative and Summative	Inter-disciplinary Connections	21 st Century Connections
	strategies for computing with numbers	SMP 7 - Look for and make use of structure.						based on various sources of income.
How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers	Number and Operations-Fractions SMP 1 - Make sense of problems and persevere in solving them. SMP 2 - Reason abstractly and quantitatively.	Perform operations with multi-digit whole numbers and with decimals to hundredths.	5.NBT.5 - Fluently multiply multi-digit whole numbers using the standard algorithm.	Multiply whole numbers and decimals using the standard algorithm.	Connor is buying tickets to a play. The play he and his friends want to see costs \$4.75 per ticket. Connor has \$26.00 in his pocket. Can Connor take six friends to see the play? Explain/Draw a model to show how you solved.		
How does a digit's position affect its value?	Understanding place value can lead to number sense and efficient strategies for computing with numbers	Number and Operations-Fractions SMP 2 - Reason abstractly and quantitatively.	Perform operations with multi-digit whole numbers and with decimals to hundredths.	5.NBT.6 - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Solve division of a whole numbers with four digit dividends and two digit divisors using properties of operations and equations.	2789 ÷ 72 = Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. A theater sells out every day for 31 days. During that time, 4,340 tickets were sold. How many people does the theater hold?		
How does a digit's position affect its value?	Understanding place value can lead to number sense and	Number and Operations-Fractions	Perform operations with multi-digit whole	5.NBT.7 - Add, subtract, multiply, and divide decimals to hundredths, using concrete models or	Perform operations with decimal numbers.	Julia rented a bike for week when she visited her cousin. The rental cost for		

Hillsborough Township Public Schools
 Mathematics Department
 Grade Five Curriculum Map

Essential Questions	Enduring Understandings	Domain & Practices (SMP)	Cluster	Standard	Learning Targets	Assessment Formative and Summative	Inter-disciplinary Connections	21 st Century Connections
	efficient strategies for computing with numbers	SMP 2 - Reason abstractly and quantitatively.	numbers and with decimals to hundredths.	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.		the bike was \$12.95 per day. She had her own helmet, but the strap broke on the third day, so she had to rent a helmet for the last four days at a cost of \$2.25 per day. How much did it cost to rent the bike and helmet?		
How does a digit's position affect its value? How can different strategies be helpful when solving a problem?	Understanding place value can lead to number sense and efficient strategies for computing with numbers.	Number and operations in base ten. SMP 2 - Reason abstractly and quantitatively. SMP 7 - Look for and make use of structure.	Understand the place value system.	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.	Explain strategies using models or drawings when adding, subtracting, multiplying and dividing decimals to hundredths. Express and explain a pattern for how multiplying or dividing any decimal by a power of 10 relates to the placement of the decimal point	Solve the following problem: $23.4 \div 103$ Explain how you got your answer. Jack is multiplying 64.15×10 so he put a zero at the end of the number to get his answer. $64.15 \times 10 = 64.150$. Explain why you agree or disagree with the Jack's thinking.	.	
End-of-Year-Assessment Pacing: 1 Day								