Module 1: Whole Number and Decimal Fraction Place Value to the One-Thousandths

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
Module 1: Whole Number and Decimal Fraction Place Value to the One-Thousandths	In Module 1, whole number patterns with number disks on the place value table are easily generalized to decimal numbers. As students work word problems with measurements in the metric system, where the same patterns occur, they begin to appreciate the value and the meaning of decimals. Fractions of the form 1/10, 1/100, 1/1000 also play a prominent role in the first module and are used to investigate patterns on theplace value table. **Focus Standards or Module 1** CC.2.1.5.B.1 - Apply place value to show an understanding of operations and rounding as they pertain to whole numbers and decimals. CC.2.4.5.A.1 - Solve problems using conversions within a given measurement system. **Standards for Mathematical Practice** MP# 1. Make sense of problems and persevere in solving them. MP# 2. Reason abstractly and quantitatively. MP# 4. Model with mathematics. MP# 5. Use appropriate tools strategically. MP# 6. Attend to precision. MP# 7. Look for and make use of structure (Deductive Reasoning). MP# 8. Look for and express regularity in repeated reasoning. Mathematical Practices resource page on SAS				
		ACCESS Module 1: Whole Number and Decimal Fraction Place Value to the One-Thousandths		http://www.pdesas.org/module/cm/Cmap/View/16770	
Multi Digit Numbers	In this lesson you will demonstrate an understanding that in a multi-digit number, a digit in one's place represents 1/10 of what it represents in the place to its left.	**LEARN** how digits in a decimal number are related.		https://learnzillion.com/lessons/3345-understand-the-value-of-a-digit-in-a-decimal-number	
		REPRESENT a number using with base ten blocks.	Solve and explain your thinking for each task within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/1/tasks/1800	Tenths and Hundredths task
				https://www.illustrativemathematics.org/content-standards/5/NBT/A/1/tasks/1799	Which number is it? task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Patterns of Multiplying a Number by Powers of 10	In this lesson, you will explain patterns in the number of zeroes in 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.	**LEARN** about the pattern in the number of zeroes in the product when multiplying a number by powers of 10.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-mult-powers-of-10/v/powers-of-10	
		DEMONSTRATE understanding of powers of 10 denoted with exponents.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-mult-powers-of-10/e/powers-of-ten	

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		PRACTICE multiplying and dividing by powers of 10.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-mult-div-whole-num-10-100-1000/e/mult-div-whole-numbers-by-10-100-1000	
		LEARN about the patterns in the placement of the decimal point when a decimal is multiplied by a power of 10.	Follow the directions and complete the task in the Explain Everything app.	http://www.k-5mathteachingresources.com/support-files/multiplying-a-decimal-by-a-power-of-10.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		EXPLAIN the patterns in the placement of the decimal point when a decimal is multiplied by a power of 10.	Follow the directions and complete the tasks in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/2/tasks/1620	Multiplying Decimals by 10 task
				https://www.illustrativemathematics.org/content-standards/5/NBT/A/2/tasks/1524	Martha's Multiplcation error task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN about the patterns in the placement of the decimal point when a decimal is divided by a power of 10.	HIt the button to mutliply and divide by 10. Look for pattern in the placement of the decimal point when dividing by 10. Explain the pattern within the Explain Everything app.	Tick Baits Universe Lite App - https://itunes.apple.com/us/app/tick-baits-universe-lite-version/id502908722?mt=8	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE multiplying and dividing decimals by powers of 10.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-mult-powers-of-10/e/multiplying-and-dividing-by-powers-of-10	
		DEMONSTRATE an understanding of moving the decimal point.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-mult-powers-of-10/e/understanding_moving_the_decimal	*
Reading and Writing Decimals	In this lesson, you will read and write decimals to the thousandths using base 10 numerals, word form, and expanded form.	**PRACTICE** reading and writing decimals using word and expanded forms.	Follow the directions and respond in written form within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/3/tasks/1813	Are these equivalent to 9.52? task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		REPRESENT decimals with base ten blocks.	Use the base ten blocks as specified to represent 5 decimal numbers. Within Settings, choose the red cube, blue flat, ten rod, and one cube. Turn the place value chart off. Create the full chart for each number representation and take a screenshot of each.	http://www.k-5mathteachingresources.com/support-files/representing-decimals.pdf	

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				https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
		ENGAGE in representing decimal numbers in expanded form.	Choose Grade 5, Place Value, and Represent Decimals	https://itunes.apple.com/us/app/splash-math-k-to-5-app-for/id672658828?mt=8	https://www.splashmath.com/math-skills/fifth-grade
Comparing Two Decimals	In this lesson, you will compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols.	**COMPARE** decimal numbers using base ten blocks.	Complete the task using base ten blocks. Take a screen shot of the each represention and discuss which number is larger and why within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/3/tasks/1801	Drawing Pictures to Illustrative decimal comparisons task from wikispace
				https://itunes.apple.com/us/app/number-pieces-by-math-learning/id605433778?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to compare decimals using a number line.	Import the task into the Explain Everything app, plot the numbers on the number line, and explain your reasoning.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/3/tasks/1802	Comparing decimals on the number line task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to compare decimals to the thousandths using a number line.	Import the task into the Explain Everything app, plot the numbers on the number line, and explain your reasoning.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/3/tasks/1803	Placing Thousandths on the Number Line task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE comparing decimal numbers.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/e/comparing_decimals_2	
Rounding Decimals	In this lesson, you will round decimals to ones, tenths, hundredths, or thousandths place.	**WATCH** the following video on decimal rounding.		https://learnzillion.com/lesson_plans/7226-round-decimals-to-the-nearest-hundredth	
		PRACTICE rounding decimals using a number line.	Import a screenshot of the task into the Explain Everything app, label the number line, and provide a written explanation.	https://www.illustrativemathematics.org/content-standards/5/NBT/A/4/tasks/1804	Rounding to the tenths and hundredths task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE rounding decimal numbers.		http://www.math10.com/tests/fifth-grade-test-decimal-round-off.html	
				https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-rounding-decimals/e/rounding_numbers	

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				https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-rounding-decimals/e/rounding-decimals	
Metric Measurement Conversion	In this lesson, you will convert among different sized measurement units within a given measurement system using a provided table of equivalencies.	**DETERMINE** a relationship between metric units.	Complete the task using the Excel app to create the table.	http://www.k-5mathteachingresources.com/support-files/comparing-metric-units.pdf	
				https://itunes.apple.com/us/app/microsoft-excel/id586683407?mt=8	https://play.google.com/store/apps/details?id=com.microsoft.office.excel&hl=en
		WATCH and **LISTEN** to the metric conversion song.		http://www.youtube.com/watch?v=IhtgKHYZti0	
		PRACTICE converting measurement units.	Choose Grade 5, then Measurement, then Convert Metric Units, Levels 1 and 2	https://itunes.apple.com/us/app/splash-math-k-to-5-app-for/id672658828?mt=8	https://www.splashmath.com/math-skills/fifth-grade
		PRACTICE converting metric measurements of length.		http://www.ixl.com/math/grade-5/compare-and-convert-metric-units-of-length	
		PRACTICE converting metric measurements of capacity.		http://www.ixl.com/math/grade-5/compare-and-convert-metric-units-of-volume	
		PRACTICE converting Metric measurements of weight.		http://www.ixl.com/math/grade-5/compare-and-convert-metric-units-of-weight	
		PRACTICE converting all metric measurements.		http://www.ixl.com/math/grade-5/compare-and-convert-metric-units	
		PRACTICE measurement conversions.		http://mrnussbaum.com/horrendous-soup-ipad.html	
		SOLVE word problems involving metric conversion.		http://downloads.bbc.co.uk/skillswise/maths/ma22leng/game/ma22leng-game-build-a-shed/conversion_v2_4.swf	
English Measurement Conversion	In this lesson, you will convert among different sized measurement units within a given measurement system using a provided table of equivalencies.	**READ** and **USE** the following tables throughout this session to convert different sized measurment units.		http://www.conweb.com/tblefile/conver.shtml	
		COMPLETE the practice activities on measurement conversions of both English and metric units.		https://www.mhschool.com/math/mathconnects/assets/mhln/00061648/00061648.swf	
		PRACTICE converting measurement units.	Choose Grade 5, then Measurement, and then Convert Customary Units.	https://itunes.apple.com/us/app/splash-math-k-to-5-app-for/id672658828?mt=8	https://www.splashmath.com/math-skills/fifth-grade
		PRACTICE converting English measurements of length.		http://www.ixl.com/math/grade-5/compare-and-convert-customary-units-of-length	
		PRACTICE converting English measurements of capacity.		http://www.ixl.com/math/grade-5/compare-and-convert-customary-units-of-volume	
		PRACTICE converting English measurements of weight.		http://www.ixl.com/math/grade-5/compare-and-convert-customary-units-of-weight	

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		PRACTICE converting all English measurements.		http://www.ixl.com/math/grade-5/compare-and-convert-customary-units	

Module 2: Multi-Digit Whole Number and Decimal Fraction Operations

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
Module 2: Multi-Digit Whole Number and Decimal Fraction Operations	Module 2 starts by giving students a chance to sharpen their skills in multiplying and dividing (decimal) numbers by 1-digit whole numbers. Now they are ready to generalize the 1-digitalgorithms to the multi-digit whole number versions (multi-digit decimal multiplication such as 4.1. 3.4 and division such as 4.5 ÷ 1.5 are studied in Module 4). For multiplication, students must grapple with and fully understand the distributive property (one of the key reasons for teaching the multi-digit algorithm). While the multi-digit multiplication algorithm is a straightforward generalization of the one-digit multiplication algorithm, the division algorithm with two-digit divisor requires far more care to teach because students have to also learn estimation strategies, error correction strategies, and the idea of successive approximation (all of which are central concepts in math, science, and engineering). **Focus Standards in Module 2** CC.2.1.5.B.2 - Extend an understanding of operations with whole numbers to perform operations including decimals. CC.2.2.5.A.1 - Interpret and evaluate numerical expressions using order of operations. **Standards for Mathematical Practice** MP# 1. Make sense of problems and persevere in solving them. MP# 2. Reason abstractly and quantitatively. MP# 4. Model with mathematics. MP# 5. Use appropriate tools strategically. MP# 6. Attend to precision. MP# 7. Look for and make use of structure (Deductive Reasoning). MP# 8. Look for and express regularity in repeated reasoning. Mathematical Practices resource page on SAS				
		ACCESS Module 2: Multi-Digit Whole Number and Decimal Fraction Operations.		http://www.pdesas.org/module/cm/Cmap/View/16867	
Multiplying Whole Numbers	In this lesson, you will multiply multi-digit whole numbers, not to exceed three digits by three digits.	**REVIEW** how the multiplication process works by watching the following set of videos.		https://learnzillion.com/lesson_plans/4881-multiply-multi-digit-numbers-using-an-area-model?card=63443	
				https://learnzillion.com/lesson_plans/8117-use-partial-products-for-multiplication	
				https://learnzillion.com/lesson_plans/8041-use-the-standard-algorithm-for-multiplication	
		PERFORM multi-digit multiplication.	Choose grade 5, Multiplications, levels 2 and 3	https://itunes.apple.com/us/app/splash-math-k-to-5-app-for/id672658828?mt=8	https://www.splashmath.com/math-skills/fifth-grade
		ANALYZE and **COMPLETE** a multiplication algorithm.	Complete the task providing a written explanation within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NBT/B/5/tasks/1812	Elmer's Multiplication Error task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		FORMULATE answers for the following activity on multiplying without regrouping.		https://www.khanacademy.org/math/arithmetic/multiplication-division/multi_digit_multiplication/e/multiplication_1.5	
		ANALYZE the following problems on multiplying digits with regrouping.		https://www.khanacademy.org/math/arithmetic/multiplication-division/multi_digit_multiplication/e/multiplication_2	

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Whole Number Quotients	In this lesson, you will find whole number quotients of whole numbers with up to four digit dividends and two digit divisors.	**LEARN** how to divide using an area model.		https://learnzillion.com/lessons/552-use-an-area-model-for-division-of-4-digit-dividends-by-2-digit-divisors	
		LEARN how to use the partial quotients strategy for division.		https://www.youtube.com/watch?v=hCKd3C4P6Uk	
		CALCULATE the answers to one line of problems using the partial quotients strategy. **DEMONSTRATE** your solution using the Explain Everything app.		http://www.k-5mathteachingresources.com/support-files/division-strategy-partial-quotients-ver.1.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		CALCULATE the answer to the task using one of the methods demonstrated in the last two videos.	Show and describe your strategy within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NBT/B/6/tasks/878	Minutes and Days task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE division of 3-digit numbers with a 2-digit divisor.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-division/e/division_3	
		LEARN how to use the standards algorithm for division.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-division/v/dividing-2-digits-no-remainder	
		REVIEW the division tutorial and then **PRACTICE** sample problems. Work through remainders, decimals, repeating decimals, and decimals in divisors.		https://itunes.apple.com/us/app/long-division-touch/id574226151?mt=8	https://play.google.com/store/apps/details?id=ngdivisiontouchy.longdivisiontouch&hl=en
		PRACTICE division of 4-digit numbers by a 2-digit divisor.		https://www.khanacademy.org/math/arithmetic/multiplication-division/long_division/e/division_4	
		COMPLETE the following activity to test your understanding of estimating quotients within word problems.		http://www.ixl.com/math/grade-5/estimate-quotients-word-problems	
Decimals to the Hundredths- Operations of Addition and Subtraction	In this lesson, you will add and subtract decimals to hundredths.	**LEARN** how to add decimals.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-add-sub-decimals/v/adding-decimals-example-1	
		PRACTICE adding decimals to the hundredths by using base ten blocks.	Within Settings, choose the blue flat, green rod, and yellow cube and turn the place value chart off. Use the blocks to create a picture of your choosing (animal, flower, etc.). Add the value of all the pieces in your picture. Take a screenshot of the design and the sum of the values.	https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
		LEARN how to subtract decimals.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-sub-decimals/v/subtracting-decimals-up-to-hundredths	

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		LEARN how to subtract decimals where regrouping is needed.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-sub-decimals/v/another-example-subtracting-decimals-to-hundredths	
		PRACTICE solving word problems involving adding and subtracting decimals.		http://mrnussbaum.com/grade5standards/550-2/	
Decimals to the Hundredths- Operations of Multipiication and Division.	In this lesson, you will multiply and divide decimals to hundredths by one digit numbers (no divisors with decimals).	**LEARN** about the process of multiplication of decimals by one-digit numbers using area models.		https://learnzillion.com/lessons/556-multiply-decimals-by-whole-numbers-by-using-an-area-model	
		LEARN about the process of multiplication of decimals by one-digit numbers.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-multiplication/v/intro-to-multiplying-decimals	
		PRACTICE multiplying decimals by one-digit numbers.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-multiplication/e/multiplying_decimals_0.5	
		TEST your understanding of decimal multiplication within word problems.		http://www.ixl.com/math/grade-5/multiply-decimals-and-whole-numbers-word-problems	
		SOLVE word problems involving multiplying decimals by one digit numbers.	Solve the problems and provide work and explanation within the Explain Everything app.	http://www.k-5mathteachingresources.com/support-files/multiplying-decimals-word-problems.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to divide decimals by one-digit divisors using a place value chart.		https://www.youtube.com/watch?v=i1fgUSUYamk	
		LEARN how to divide decimals by one-digit divisors using the standard algorithm.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-dividing-decimals/v/dividing-a-decimal-by-a-whole-number	
		TEST your understanding of decimal division.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-dividing-decimals/e/dividing_decimals_1	
		APPLY the skills learned about decimal operations to **SOLVE** the following problem using the Explain Everything app to demonstrate your solution.		https://www.illustrativemathematics.org/content-standards/5/NBT/B/7/tasks/1293	The Value of Education task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Multiplying Decimals	In this lesson, you will multiply decimal numbers where both factors are decimal numbers.	**LEARN** how to multiply a decimal by a decimal.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-multiplication/v/more-intuition-on-multiplying-decimals	

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		PRACTICE mutliplying decimal numbers.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-arith-operations/cc-5th-multiplication/e/multiplying_decimals_1	
Grouping Symbols	In this lesson, you will use multiple grouping symbols (parentheses, brackets, or braces) in numerical expression and evaluate expressions containing these symbols.	**LEARN** about the importance of order of operations.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-writing-expressions-tut/v/evaluating-an-expression-with-and-without-parentheses	
		PRACTICE using order of operations to evaluate a numerical expression.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-writing-expressions-tut/e/expressions-with-parentheses	
		DRAW a picture to represent different numerical expressions.	Use the Explain Everything app to depict each numerical expression.	https://www.illustrativemathematics.org/content-standards/5/OA/A/tasks/1606	Why do we need an order of operations task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE using the order of operations to create a predetermined total.	Choose the option which includes parantheses.	https://itunes.apple.com/us/app/5-dice-order-operations-game/id572774867?mt=8	
Expressions	In this lesson, you will write simple expressions that model calculations with numbers and interpret numerical expressions without evaluating them.	**LEARN** about how to write simple expressions to model calcuations.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-writing-expressions-tut/v/translating-expressions-with-parentheses	
		TRANSLATE words into numerical expressions.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-writing-expressions-tut/e/translating-expressions-with-parentheses	
		CREATE a numerical expressions to describe a real world situation.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-writing-expressions-tut/e/creating-expressions-with-parenthesis	
		MODEL a numerical expression with a diagram.	Use the Explain Everything app to provide the visual and a written explanation.	https://www.illustrativemathematics.org/content-standards/5/OA/A/2/tasks/1222	seeing is believing task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		REPRESENT a situation with a numercial expression.	Use the Explain Everything app to show your expression and your written explanation.	https://www.illustrativemathematics.org/content-standards/5/OA/A/2/tasks/590	Video Game scores task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module 3: Addition and Subtraction of Fractions

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTION	URL	Alternative to IOS or Notes
Module 3: Addition and Subtraction of Fractions	Work with place value units in the first two modules paves the path to fractions and arithmetic with fractions in Module 3 as elementary math's place value emphasis shifts to a focus on the larger set of fractional units for algebra. Like units are added to and subtracted from like units: The new complexity is that if units are not equivalent, they must be changed for smaller equal units so that they can be added or subtracted. Probably the best model for showing this is the rectangular fraction model pictured below. The equivalence is then represented symbolically as students engage in active meaning making rather than obeying the perhaps mysterious command to "multiply the top and bottom by the same number". Relating different fractional units to one another requires extensive work with area and number line diagrams. Tape diagrams are used often in word problems. Tape diagrams, which students began using in the early grades and which becomeincreasingly useful as students applied them to a greater and greater variety of word problems, hit their full strength as a model when applied to fraction word problems. At the heart of a tape diagram is the now-familiar idea of forming units. In fact, forming units to solve word problems is one of the most powerful examples of the unit theme and is particularly helpful for understanding fraction arithmetic. **Focus Standards for Module 3** CC.2.1.5.C.1 - Use the understanding of equivalency to add and subtract fractions. **Important Standards for Module 3** CC.2.4.5.A.4 - Solve problems involving computation of fractions using information provided in a line plot. **Standards for Mathematical Practices** MP# 1. Make sense of problems and persevere in solving them. MP# 2. Reason abstractly and quantitatively. MP# 4. Model with mathematics. MP# 5. Use appropriate tools strategically. MP# 6. Attend to precision. MP# 7. Look for and make use of structure (Deductive Reasoning). MP# 8. Look for and express regularity in repeated reasoning. Mathematical Practices resource page on SAS				
		ACCESS MODULE 3 Addition and Subtraction of Fractions.		http://www.pdesas.org/module/cm/Cmap/View/16920	
Adding and Subtracting Fractions with Unlike Denominators	In this lesson, you will add and subtract fractions with unlike denominators.	**DETERMINE** how to add fractions with unlike denominators using a model.	Import into Explain Everything to create models.	http://www.k-5mathteachingresources.com/support-files/create-equivalent-fractions-to-add-unlike-tfractions.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE adding fractions with unlike denominators using a model.		http://www.ixl.com/math/grade-5/add-fractions-with-unlike-denominators-using-models	
		VERIFY your technique for how to add fractions with unlike denominators.		https://learnzillion.com/lessons/2390-add-fractions-with-unlike-denominators-using-fraction-bars	

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTION	URL	Alternative to IOS or Notes
		PRACTICE adding fractions with unlike denominators.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-fractions-topic/cc-5th-add-sub-fractions/e/adding_fractions	
		DETERMINE how to subtract fractions with unlike denominators using a model.	Import into Explain Everything to create models.	http://www.k-5mathteachingresources.com/support-files/create-equivalent-fractions-to-subtract-unlike-fractions.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE subtracting fractions with unlike denominators using a model.		http://www.ixl.com/math/grade-5/subtract-fractions-with-unlike-denominators-using-models	
		VERIFY your technique for how to subtract fractions with unlike denominators.		https://learnzillion.com/lessons/2480-subtract-fractions-with-unlike-denominators-using-fraction-bars	
		PRACTICE subtracting fractions with unlike denominators.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-fractions-topic/cc-5th-add-sub-fractions/e/subtracting_fractions	
		SOLVE word problems involving adding and subtracting fractions with unlike denominators using models.	Choose the Adding Fractions with Unlike Denominators option.	https://itunes.apple.com/us/app/thinking-blocks-fractions/id670767677?mt=8	http://www.mathplayground.com/tb_fractions/thinking_blocks_fractions.html
		SOLVE word problems involving adding and subtracting fractions with unlike denominators.		http://www.ixl.com/math/grade-5/add-and-subtract-fractions-with-unlike-denominators-word-problems	
		APPLY your knowledge of adding and subtracting fractions to solve this problem.	Show supporting diagram, work, and explanation in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/A/tasks/1518	Measuring Cups task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		APPLY your knowledge of adding and subtracting fractions to solve this problem.	Show supporting diagram, work, and explanation in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/A/1/tasks/855	Jog-a-thon task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		APPLY your knowledge of adding and subtracting fractions to solve this problem.	Show supporting diagram, work, and explanation in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/A/1/tasks/861	Making Smores
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTION	URL	Alternative to IOS or Notes
Adding and Subtracting Mixed Numbers with Unlike Denominators	In this lesson, you will add and subtract fractions (including mixed numbers) with unlike denominators.	**LEARN** how to add mixed numbers with unlike denomiators by using fraction bars.		https://learnzillion.com/lessons/2483-add-mixed-numbers-with-unlike-denominators-using-fraction-bars	
		CALCULATE the sum of two mixed numbers using fraction bars.		http://www.visualfractions.com/AddUnlike/	
		SOLVE the tasks that involve adding mixed numbers with unlike denominators.	SOLVE each problem through the use of a diagram within the Explain Everything App and provide a written explanation for one of them.	http://www.k-5mathteachingresources.com/support-files/word-problems-adding-mixed-numbers.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to subtract mixed numbers with unlike denominators by using improper fractions.		https://learnzillion.com/lessons/2541-subtract-mixed-numbers-with-unlike-denominators-using-fraction-bars	
		LEARN how to subtract mixed numbers with unlike denominators by decomposing.		https://learnzillion.com/lessons/2443-subtract-fractions-and-mixed-numbers-by-decomposing	
		COMPARE the two previous methods for subtracting mixed numbers.	After watching both videos, write how the methods are similar and different. Which method do your prefer and why?	https://itunes.apple.com/us/app/microsoft-word/id586447913?mt=8	https://play.google.com/store/apps/details?id=com.microsoft.office.word&hl=en
		CALCULATE the difference of two mixed numbers using fraction bars.		http://www.visualfractions.com/SubtractEasy/	
		SOLVE the tasks that involve subtracting fractions with unlike denominators.	Solve each problem through the use of a diagram within the Explain Everything app and provide a written explanation for one of them.	https://www.carrollk12.org/curriculum/elementary/mathematics/fifthgrade/Documents/R.5.NF.2.MixedNumberProblems.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Data Displays Involving Fractions	In this lesson, you will solve problems using computation of fractions by using information presented in line plots.	**WATCH** the video on creating line plots with fractions.		https://learnzillion.com/lessons/3455	
		PRACTICE constructing and interpreting line plots about football player heights.	Launch and complete the activity.	https://wqed.pbslearningmedia.org/resource/mmpt-math-ee-intsurvey1/displaying-data-with-line-plots/#.WQyRLFdllmA	
		COMPLETE the two tasks at the bottom of the page.	Use the Explain Everything app to show your thinking.	http://www.onlinemathlearning.com/line-plots-4md4.html	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module 4: Multiplication and Division of Fractions and Decimal Fractions

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
Module 4: Multiplication and Division of Fractions	In Module 4, students explore multiplication and division of fractions. **Focus Standards for Module 4** CC.2.1.5.C.2 - Apply and extend previous understandings of multiplication and division to multiply and divide fractions. **Important Standards for Module 4** CC.2.4.5.A.1 - Solve problems using conversions within a given measurement system. CC.2.4.5.A.2 - Represent and interpret data using appropriate scale. CC.2.4.5.A.4 - Solve problems involving computation of fractions using information provided in a line plot **Standards for Mathematical Practice** MP# 1. Make sense of problems and persevere in solving them. MP# 2. Reason abstractly and quantitatively. MP# 4. Model with mathematics. MP# 5. Use appropriate tools strategically. MP# 6. Attend to precisionMP# 7. Look for and make use of structure (Deductive Reasoning). MP# 8. Look for and express regularity in repeated reasoning. Mathematical Practices resource page on SAS				
		ACCESS Module 4 Multiplication and Division of Fractions and Decimal Fractions.		http://www.pdesas.org/module/cm/Cmap/View/16921	
Dvision of Whole Numbers Resulting in Fractional Quotients	In this lesson, you will interpret a fraction as division of the numerator by the denominator (a/b = a (division symbol) b.	**LEARN** how to interpret fractions as division problems.		https://learnzillion.com/lessons/3759-understand-fractions-as-division	
		INTERPRET fractions as division of whole numbers.		https://www.khanacademy.org/math/arithmetic/fractions/dividing-fractions-tutorial/e/understanding-fractions-as-division	
Dvision of Whole Numbers Resulting in Fractional Quotients	In this lesson, you will solve word problems involving division of whole numbers with quotients as fractions or mixed numbers and recognize the remainder as a fractional part of the problem.	**SOLVE** word problems involving division of whole numbers.	Demonstrate the solution to each part of the tasks within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/3/tasks/858	How Much Pie? task
				https://www.illustrativemathematics.org/content-standards/5/NF/B/3/tasks/292	What is 23 divided by 5? task
				https://www.illustrativemathematics.org/content-standards/5/NF/B/3/tasks/293	Converting Fractions of a Unit into a Smaller Unit
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Multiplication of Fractions	In this lesson, you will multiply a fraction by a fraction.	**LEARN** how to multiply two fractions using a rectangular model.		https://learnzillion.com/lessons/213-multiply-fractions-by-fractions-using-area-models	
		LEARN about and **SOLVE** problems involving fraction multiplication.	Choose Multiplying, watch the lesson, try some practice problems with the manipulative, and answer some questions.	https://itunes.apple.com/us/app/fractions-by-brainingcamp/id471353363?mt=8	http://www.glencoe.com/sites/common_assets/mathematics/im1/concepts_in_motion/animations/MC3CIM2-3.swf and http://www.classzone.com/cz/books/msmath_1_na/resources/applications/animations/chapter_7/html/g6_7_2.swf
		SOLVE word problems involving fraction multiplication.	Use the fraction app to solve these problems. Choose Multiplying and then Manipulative. Take a screenshot of each rectangle.	https://www.illustrativemathematics.org/content-standards/5/NF/B/6/tasks/294	Running to School task

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
				https://www.illustrativemathematics.org/content-standards/5/NF/B/6/tasks/295	Drinking Juice task
				https://itunes.apple.com/us/app/fractions-by-brainingcamp/id471353363?mt=8	http://www.eduplace.com/kids/mw/swfs/manip/manipulative.swf?tm=/kids/mw/swfs/manip/fractions_prim.swf
		SOLVE problems involving fraction multiplication.		http://braingenie.ck12.org/skills/102648	
		SOLVE word problems involving fraction multiplication.	Complete the problems and demonstrate the solutions in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/4/tasks/2102	New Park task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		CREATE a word problem to match the given diagram.	Share your solutions within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/4/tasks/2075	Connecting Area Model
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		SOLVE word problems involving fraction multiplication.	Complete the problems and demonstrate the solutions in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/4/tasks/2078	Cornbread Fundraiser task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		DETERMINE the appropriate operation to solve the problems.	Explain your thinking in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/6/tasks/609	To Muliply or not to Multiply? task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Multiplying Fractions and Mixed Numbers	In this lesson, you will multiply fractions and mixed numbers.	**LEARN** about mutlipying a fraction by a mixed number using an area model.		https://learnzillion.com/lessons/1550-multiply-a-fraction-by-a-fraction-using-area-models-2	
		PRACTICE multiplying a fraction by a mixed number using an area model.		http://www.visualfractions.com/MultStrict/	
		SOLVE multiplication of fractions word problems.		http://braingenie.ck12.org/skills/102652	
		SOLVE word problems involving fraction and mixed number multiplication.	Complete the problems and demonstrate the solutions in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/4/tasks/2080	Cross Country training task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Finding the Area of A Triangle	In this lesson, you will find the area of a rectangle with fractional side lengths.	**LEARN** how to find the area of a rectangle with fractional side lengths by tiling.		https://learnzillion.com/lessons/1542-find-the-area-of-a-rectangle-with-fractional-side-lengths-by-tiling	
		CALCULATE the area of a rectangle with fractional side lengths.	Import the image into the Explain Everything app and demonstrate our solution.	https://www.illustrativemathematics.org/content-standards/5/NF/B/4/tasks/1988	Chavone's Bathroom Tiles task

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
		SOLVE problems involving area of a rectangle with fractional side lengths.		http://mrnussbaum.com/grade5standards/575-2/	
Multiplication as Scaling	In this lesson you will compare 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.	**COMPARE** the size of the product to one fractor on the basis of the size of the other factor.	Import the task into the Explain Everything app and provide a written explanation.	https://www.illustrativemathematics.org/content-standards/5/NF/B/5/tasks/143	Grass Seedlings task
		COMPARE the size of the product to one fractor on the basis of the size of the other factor.	Complete the problem and provide a diagram and a written explanation in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/5/tasks/1174	Comparing Heights of Building task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Multiplying A Given Number by A Fraction Greater than One	In this lesson, you will explain 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 × a)/(n × b) to the effect of multiplying a/b by 1.	**EXPLAIN** how to determine the size of the product based on the size of the factors.	Complete the problems and provide a written explanation in the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/4/tasks/2079	Mrs. Gray's Homework assignment task
				https://www.illustrativemathematics.org/content-standards/5/NF/B/5/tasks/49	Reasoning about Multiplication task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Dividing Unit Fractions	In this lesson, you will learn how to divide a whole number by a unit fraction or divide a unit fraction by a whole number.	**LEARN** how to divide a unit fraction by a whole number using a model.		https://learnzillion.com/lessons/130-draw-pictures-for-division-of-unit-fractions	
		CREATE a story problem and a diagram to model a problem involving division of a unit fraction by a whole number.	Demonstrate your solutions within the Explain Everything app.	http://www.k-5mathteachingresources.com/support-files/divide-a-unit-fraction-by-a-whole-number.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		APPLY your knowledge to solve the following word problem.	Explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/7/tasks/1172	Salad Dressing task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to divide a whole number by a unit fraction using a model.		https://learnzillion.com/lessons/131-divide-by-unit-fractions-using-the-number-line	
		CREATE a story problem and a diagram to model a problem involving division of a whole number by a unit fraction.	Demonstrate your solutions within the Explain Everything app.	http://www.k-5mathteachingresources.com/support-files/divide-a-whole-number-by-a-unit-fraction-ver.1.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		DETERMINE which situations can be modeled by the given division problem.	Explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/7/tasks/12	Dividing by one-half task

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		APPLY your knowledge to solve the following word problem.	Explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/NF/B/7/tasks/829	How Many Servings of Oatmeal? task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module 5: Addition and Multiplication with Volume and Area

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
Module 5: Addition and Multiplication with Volume and Area	Through the daily use of area models, the fraction module prepares students for an in-depth discussion of area and volume in Module 5. But the module on area and volume also reinforces work done in the fraction module: Now, questions about how the area changes when a rectangle is scaled by a whole or fractional scale factor may be asked. Measuring volume once again highlights the unit theme, as a unit cube is chosen to represent a volume unit and used to measure the volume of simple shapes composed out of rectangular prisms. **Focus Standards in Module 5** CC.2.3.5.A.2 - Classify two-dimensional figures into categories based on an understanding of their properties. **Standards for Mathematical Practice** MP# 1. Make sense of problems and persevere in solving them. MP# 2. Reason abstractly and quantitatively. MP# 4. Model with mathematics. MP# 5. Use appropriate tools strategically. MP# 6. Attend to precision. MP# 7. Look for and make use of structure (Deductive Reasoning). MP# 8. Look for and express regularity in repeated reasoning. Mathematical Practices resource page on SAS				
		ACCESS Module 5 Addition and Multiplication with Volume and Area.		http://www.pdesas.org/module/cm/Cmap/View/16922	
Classifying Two-Dimensional Figures Based on Their Properties	In this lesson, you will classify two dimensional figures in a hierarchy based on properties.	**LEARN** an overview of quadrilaterals.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-geometry-topic/cc-5th-quadrilaterals/v/quadrilateral-overview	
		CLASSIFY shapes based on their properties.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-geometry-topic/cc-5th-quadrilaterals/e/quadrilateral_types	
		IDENTIFY and **COMPARE** shapes based on their properties.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-geometry-topic/cc-5th-quadrilaterals/e/properties-of-shapes	
		CONSTRUCT shapes based on given attributes.	Use the Geoboard app to create and name the shapes. Take a screenshot of each shape.	http://www.k-5mathteachingresources.com/support-files/quadrilateral-criteria.pdf	
				https://itunes.apple.com/us/app/geoboard-by-math-learning/id519896952?mt=8	https://www.mathlearningcenter.org/web-apps/geoboard/
		DETERMINE if statements about two dimensional shapes are true or false.	Complete the task within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/G/B/3/tasks/1941	Always, Sometimes, Never task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		ANALYZE a Venn Diagram to determine the commonalities of shapes.	Complete the task within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/G/B/4/tasks/1943	what do these shapes have in common task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
		CREATE a heirarchy of shapes.	Create a polygon hierarchy within the Popplet app for the following terms: Quadrilateral, Parallelogram, Non Parallelogram, Rectangle, Square, Rhombus, Trapezoid, Kite. Take a screenshot of the final heirarchy.	https://itunes.apple.com/us/app/popplet-lite/id364738549?mt=8	https://play.google.com/store/apps/details?id=com.modelmakertools.simplemindfree&hl=en
Volume	In this lesson, you will discover and apply the formulas 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 given the appropriate formula.	**LEARN** about the concept of volume.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume-w-unit-cubes/v/how-we-measure-volume	
		DETERMINE the volume *only* of each rectangular prism by filling it with cubes, rows, or layers.	Try at least 10 rectangular prisms.	http://illuminations.nctm.org/Activity.aspx?id=4095	
		DEVELOP a formula for finding the volume of a rectangular prism.	Write a description of how to find the volume within the Microsoft Word app.	https://itunes.apple.com/us/app/microsoft-word/id586447913?mt=8	https://play.google.com/store/apps/details?id=com.microsoft.office.word&hl=en
		VERIFY if your thinking is correct by watching a video of how to find the volume of a rectangular prism.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume-formula-intuition/v/measuring-volume-as-area-times-length	
		PRACTICE finding the volume of cubes and prisms.		http://www.mathgames.com/skill/5.120-volume-of-cubes-and-rectangular-prisms	
		PRACTICE calculating volume of prisms.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume-formula-intuition/e/volume-formula-intuition	
		PRACTICE finding the volume of rectangular prisms by using cK-12 resources.		http://www.ck12.org/geometry/Volume-of-Prisms/asmtpractice/Volume-of-Prisms-Practice/?referrer=concept_details	
Relating Volume to Multiplication and Addition	In this lesson, you will find volumes of solid figures composed of two non-overlapping right rectangular prisms.	**LEARN** how to find volume in unit cubes by decomposing shapes.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume/v/volume-in-unit-cubes-by-decomposing-shape	
		LEARN how to find volume by decomposing shapes.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume/v/volume-through-decomposition	
		PRACTICE finding volumes by decomposing shapes.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume/e/decompose-figures-to-find-volume	
		DECOMPOSE a shape into 2 rectangular prisms to calculate volume.	Import a screenshot of the task into the Explain Everything app. Follow the directions and explain your thinking within the app.	https://www.illustrativemathematics.org/content-standards/5/MD/C/5/tasks/1971	breaking apart composite solids task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
		APPLY your knowledge about volume to solve word problems.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-volume/e/volume_2	

Module 6: Graph Points on the Coordinate Plane to Solve Problems

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
Module 6: Graph Points on the Coordinate Plane to Solve Problems	Scaling is revisited in the last module on the coordinate plane.Ever since the growth and shrinking patterns were first introduced inKindergarten, students have been using bar graphs to display data and patterns. Extensive bar-graph work has set the stage for line plots, which are both thenatural extension of bar graphs and the precursor to linear functions. It is inthis final module of K-5 that a simple line plot of a straight line ispresented on a coordinate plane and students are asked about the scalingrelationship between the increases in the units of the vertical axis for 1 unitof increase in the horizontal axis. This is the first hint of slope and marksthe beginning of the major theme of middle school: ratios and proportions. **Focus Standards in Module 6** CC.2.2.5.A.4 - Analyze patterns and relationships using two rules. CC.2.3.5.A.1 - Graph points in the first quadrant on the coordinate plane and interpret these points when solving real world and mathematical problems. **Standards for Mathematical Practice** MP# 1. Make sense of problems and persevere in solving them. MP# 2. Reason abstractly and quantitatively. MP# 4. Model with mathematics. MP# 5. Use appropriate tools strategically. MP# 6. Attend to precision. MP# 7. Look for and make use of structure (Deductive Reasoning). MP# 8. Look for and express regularity in repeated reasoning. Mathematical Practices resource page on SAS				
		ACCESS Module 6 Graph Points on the Coordinate Plane to Solve Problems.		http://www.pdesas.org/module/cm/Cmap/View/16923	
Coordinate Plane	In this lesson, you will identify parts of the coordinate plane (x-axis, y-axis, and the origin) and the ordered pair (x-coordinate and y-coordinate). Limit the coordinate plane to quadrant I. Represent real-world and mathematical problems by plotting points in quadrant I of the coordinate plane, and interpret coordinate values of points in the context of a situation.	**LEARN** how to plot points on the coordinate grid.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-geometry-topic/cc-5th-coordinate-plane/v/graphing-points-exercise	
		PRACTICE graphing coordinate pairs.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-geometry-topic/cc-5th-coordinate-plane/e/graphing_points	
		PRACTICE graphing coordinate pairs by playing a game.		https://itunes.apple.com/us/app/grid-lines-ordered-pair-game/id630187892?mt=8	
		COMPLETE the tasks in the webquest to practice plotting points on a coordinate grid.		http://www.beaconlearningcenter.com/WebLessons/GridGraph/default.htm	
		PRACTICE plotting points to create shapes.	Use the Educreation app choosing a coordinate grid to plot the points. Use a separate page for each shape.	http://www.k-5mathteachingresources.com/support-files/shapes-on-the-coordinate-plane.pdf	
				https://itunes.apple.com/us/app/educreations-interactive-whiteboard/id478617061?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		INTERPRET the graph formed by coordinate pairs.	Import the task into the Explain Everything app to provide your solution.	https://www.illustrativemathematics.org/content-standards/5/G/A/2/tasks/1516	Meerkat Coordinate Plane task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

TOPIC/TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	URL	Alternative to IOS or Notes
		PROGRAM a sprite to go to points on a coordinate grid using the app Scratch Jr.		https://itunes.apple.com/us/app/scratchjr/id895485086?mt=8	https://play.google.com/store/apps/details?id=org.scratchjr.android&hl=en
Patterns	In this lesson, you will generate two numerical patterns using two given rules and identify apparent relationships between corresponding terms. You will form ordered pairs consisting of corresponding terms from the two patterns and graph the ordered pairs on a coordinate plane.	**LEARN** how to determine a relationship between two patterns.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-number-patterns/v/relationships-between-patterns	
		PRACTICE finding the relationship between two patterns.		https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-algebraic-thinking/cc-5th-number-patterns/e/visualizing-and-interpreting-relationships-between-patterns	
		PRACTICE finding the relationship between two patterns.	Solve the task within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/5/OA/B/3/tasks/1895	Sidewalk patterns task
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE finding the relationship between two patterns.	Solve the Comic Books for Sale task, the Summer Savings task, and the Going to the Movies task within the Desmos app using the table function. Import a screenshot of the table and graph from each problem into Explain Everything to provide the explanation for each problem.	http://www.k-5mathteachingresources.com/support-files/patterns-on-the-coordinate-plane.pdf	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://play.google.com/store/apps/details?id=com.desmos.calculator&hl=en
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Teacher Resources

TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	URL	Alternative to IOS or Notes
For teaching Place Value.	Use this app to practice multiplication, division, fractions and geometry.	Student APPLY knowledge of multiplication, division, fractions and geometry.	https://itunes.apple.com/us/app/5th-grade-splash-math-common/id504807361?mt=8	https://www.splashmath.com/math-skills/fifth-grade
For use with Module 1	Use this lesson plan to reinforce and extend knowledge of multiples of 10.	Students will **APPLY** knowledge of multiples of 10.	http://illuminations.nctm.org/Lesson.aspx?id=4018	
For use with Module 1	Use this lesson to allow students to demonstrate their knowledge of comparing and ordering decimals. This activity is designed for fractions, substitute decimals for the fractions to make this activity work.	Students will **APPLY** knowledge of Decimals to order and compare decimals based on place value.	http://illuminations.nctm.org/Lesson.aspx?id=2867	
Module 1 Culminating Activity Measurement Conversion	Teachers can use this webquest as a culminating activity. This activity will allow students to show their knowledge of measurement and conversions in a real world scenario.	Students will **APPLY** their knowledge of conversions and measurement to design a classroom.	http://questgarden.com/173/30/3/140727165756/index.htm	
For use with Module 2	Use this activity to allow students to demonstrate their understanding of Order of Operations.	Students will **DEMONSTRATE** knowledge of Order of Operations.	http://illuminations.nctm.org/Lesson.aspx?id=2583	
For use with Module 2 Culminating Activity	Teachers can use this webquest as a culminating activity for students to demonstrate their knowledge of multi-digit whole number and decimal fraction operations.	Students will **APPLY** their knowledge of whole number and decimal operations to plan a family trip to Disney World.	http://questgarden.com/170/55/0/140427170613/index.htm	
For use with Module 3	Teachers may use this performance assessment to gauge the understanding of students in regards to operations with fractions with unlike denominators.	Students will **APPLY** and extend knowledge of operations with fractions with mixed numbers	www.insidemathematics.org/assets/common-core-math-tasks/cindy's%20cats.pdf	
For use with Module 3	Teachers can use this webquest for students to apply their knowledge of multipliying, dividing, adding, and subtracting fractions.	Students will **APPLY** their knowledge of fractions to adjust a recipe to meet the needs of their class.	http://questgarden.com/171/32/3/140508055557/index.htm	

TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	URL	Alternative to IOS or Notes
For use with Module 3	Teachers can use with a classroom that is broken into small groups/partners. Each child should create their own frog to contribute to the data.	Students will **PRACTICE** completing the activity to create a line plot. Measurements should be taken to the nearest 1/4" instead of the inch.	https://www.nsa.gov/academia/_files/collected_learning/elementary/data_analysis/line-plots_frogs-in-flight.pdf	
For use with Modules 1, 4, and 6	Teachers may use this lesson plan to reinforce and teach to calculate elapsed time, select and use appropriate measurement tools, convert measurements, and display information in a chart/table.	Students will **CALCULATE** elapsed time, **READ** and **INTERPRET** a table/chart, and **CONVERT** measurements.	http://illuminations.nctm.org/Lesson.aspx?id=2333	
Math Graphing Module 4	Use this lesson plan as a guide to teach graphing various data sets.	Students will **DETERMINE** and **ANALYZE** different graphs.	Math Graphing 6 PDF	
Multiplying Fractions - Module 4	Teachers could use this video as background information before teaching multiplying fractions	Students will **LEARN** how to multiply fractions.	https://www.teachingchannel.org/videos/multiplying-fractions-lesson	
Multiplying Fractions - Module 4	Teachers may use the lesson plan to teacher multiplying fractions and provide additional practice with printable resources.	Students will **SOLVE** multiplying fractions problems.	http://www.instructorweb.com/lesson/multiplyingfractions.asp	
For Use with Module 4	Use this lesson plan to represent and understand multiplication and scaling.	Students will **LEARN** how to use visual representation to understand multiplication as scaling.	https://learnzillion.com/lesson_plans/124-2-use-visual-representations-to-understand-multiplication-as-scaling	
For use with Module 4	Use the lesson plan to create line plots.	Students will CREATE line plots and analyze the data.	http://betterlesson.com/lesson/525374/real-life-measurement	
Volume Module 5	Teachers can use this activity to have students build 3-dimensional figures and find the area and volume of them.	Students will **APPLY** knowledge of formulas to find the volumes of rectangluar prisms.	http://illuminations.nctm.org/Lesson.aspx?id=2009	

TITLE	MESSAGE	ASSIGNMENT (CALL TO ACTION)	URL	Alternative to IOS or Notes
Coordinates Module 6	Teachers may use this lesson plan to reinforce and teach students to plot and interpret points in quadrant 1.	Students will **GENERATE**, **INTERPRET**, and **IDENTIFY** coordinate pairs in quadrant 1. Students will also **REPRESENT** real world problems on a coordinate plane.	http://illuminations.nctm.org/Lesson.aspx?id=2844	
Coordinates Module 6	This provides an overview of how to use coordinates to program a sprite in the program Scratch.	**ENGAGE** and **WRITE CODE** to **PROGRAM** a character to move to X and Y coordinates.	http://wiki.scratch.mit.edu/wiki/Coordinate_System	