4th Grade Curriculum Map 2017-18

MONTH	UNIT/ CONTENT	CORE GOALS/SKILLS	STANDARDS WRITTEN ASSESSMENTS	ROUTINES RESOURCES	VOCABULARY

September
 	
Chapter 1
 	
8 days
	NUMBERS AND OPERATIONS IN BASE TEN
	
	WORKING WITH WHOLE NUMBERS
		Big Idea: Read, compare, and order numbers according to the place value of their digits. Also, learn to add and subtract multi-digit numbers.
		
		Write numbers to 100,000 in standard form, word form, and expanded form.
		
		Compare and order numbers to 100,000. Identify how much greater or less one number is than another number.
		Find the rule in a number pattern.
		
		Add whole numbers to 100,000 using the standard algorithm.
		Add multi-digit numbers with and without regrouping.
		Subtract whole numbers to 100,000 using the algorithm.
		Subtract multi-digit numbers with and without regrouping.
		
		Thinking Skills:
		  Spatial visualization
		  Comparing
			CC.2.1.4.B.1 Apply place value concepts to show an understanding of multi-digit whole numbers.
			
			CC.2.2.4.A.4 Generate and analyze patterns using one rule.
			
			CC.K-12.MP.1 Solve problems and persevere in solving them
			
			CC.K-12.MP.2 Reason abstractly and quantitatively
			
			CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others
			
			CC.K-12.MP.4 Model with mathematics
			
			CC.K-12.MP.5 Use appropriate tools strategically
			
			CC.K-12.MP.6 Attend to precision
			
			CC.K-12.MP.7 Look for and make use of structure
			
			CC.K-12.MP.8 Look for and express regularity in repeated reasoning
			
			Math in Focus Chapter 1 Assessment
			
			C Day Fact Fluency checks
				Morning Meeting
				
				Warm Up/ Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					ten thousand
					hundred thousand
					standard form
					word form
					expanded form
					
					greater than (>)
					less than (<)
					greatest
					least
					order

Chapter 2
 	
12 days
	ESTIMATION AND NUMBER THEORY	**BIG IDEA:** When two factors are multiplied, the product is a multiple of both numbers.
		Knowing factors and multiples of numbers can help in estimating products and quantities.
		
		Round numbers to estimate sums, differences, products, and quotients.
		Estimate to check that an answer is reasonable.
		Decide whether an estimate or an exact answer is needed.
		
		Find the common factors and greatest common factor of two whole numbers.
		Identify prime numbers and composite numbers.
		
		Find multiples of whole numbers.
		Find common multiples and the least common multiple of two or more numbers.
		
		Multiply a 2-digit number by a 1-digit number using an array model and an area model
		
		Problem Solving Strategy:
		   Eliminating options
		   Making a systematic list
			CC.2.1.4.B.1 Apply place value concepts to show an understanding of multi-digit whole numbers.
			
			CC.2.1.4.B.2 Use place-value understanding and properties of operations to perform multi-digit arithmetic.
			
			CC.2.2.4.A.4 Generate and analyze patterns using one rule.
			
			CC.K-12.MP.1 Solve problems and persevere in solving them
			
			CC.K-12.MP.2 Reason abstractly and quantitatively
			
			CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others
			
			CC.K-12.MP.4 Model with mathematics
			
			CC.K-12.MP.5 Use appropriate tools strategically
			
			CC.K-12.MP.6 Attend to precision
			
			CC.K-12.MP.7 Look for and make use of structure
			
			CC.K-12.MP.8 Look for and express regularity in repeated reasoning
			
			Math in Focus Chapter 2 Assessment
			
			C Day Fact Fluency checks
				Morning Meeting
				
				Warm Up/ Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					multiple
					common multiple
					least common multiple
					array model
					area model

October Chapter 3 **12 days**	WHOLE NUMBER MULTIPLICATION AND DIVISION	**BIG IDEA:** Place value is used to multiply and divide multi-digit numbers. Estimation can be used to check the reasonableness of an answer. Use different methods to multiply up to 4-digit numbers by 1-digit numbers, with or without regrouping. Multiply by 2-digit numbers, with or without regrouping. Estimate products Model regrouping in division. Divide a 3-digit number by a 1-digit number with regrouping. Divide up to a 4-digiti number by a 1-digit number with regrouping, and with or without remainders. Estimate quotients. Sole real-world problems. Solve multi-step real-world problems using the four operations. Represent real-world problems with a letter standing for the unknown quantity. **Problem Solving Strategies:** Use a diagram/model	CC.2.1.4.B.1 Apply place value concepts to show an understanding of multi-digit whole numbers. CC.2.1.4.B.2 Use place-value understanding and properties of operations to perform multi-digit arithmetic. CC.2.2.4.A.1 Represent and solve problems involving the four operations. CC.K-12.MP.1 Solve problems and persevere in solving them CC.K-12.MP.2 Reason abstractly and quantitatively CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others CC.K-12.MP.4 Model with mathematics CC.K-12.MP.5 Use appropriate tools strategically CC.K-12.MP.6 Attend to precision CC.K-12.MP.7 Look for and make use of structure CC.K-12.MP.8 Look for and express regularity in repeated reasoning *Math in Focus* Chapter 3 Assessment C Day Fact Fluency checks	Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin Harcourt	round estimate product regroup quotient remainder

Chapter 4
 	
12 days
	MEASUREMENT AND DATA
	
	TABLES AND LINE GRAPHS
		BIG IDEA: Graphs and tables are visual tools for showing and analyzing data.
		
		Collect, organize, and interpret data in a table.
		Create a table from data in a tally chart and a bar graph
		
		Read and interpret data in a table, using rows, columns, and intersections.
		
		Make, read, and interpret line graphs.
		Choose an appropriate graph to display a given data set.
		
		Thinking Skill:
		   Comparing
		    Identifying relationships
			CC.K-12.MP.1 Solve problems and persevere in solving them
			
			CC.K-12.MP.2 Reason abstractly and quantitatively
			
			CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others
			
			CC.K-12.MP.4 Model with mathematics
			
			CC.K-12.MP.5 Use appropriate tools strategically
			
			CC.K-12.MP.6 Attend to precision
			
			CC.K-12.MP.7 Look for and make use of structure
			
			Math in Focus Chapter 4 Assessment
			
			C Day Fact Fluency checks
				Morning Meeting
				
				Warm Up/ Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					data
					tally chart
					table
					row
					column
					intersection
					line graph
					horizontal axis
					vertical axis

November Chapter 5 **10 days**	DATA AND PROBABILITY	**BIG IDEA:** Information can be analyzed to find a typical value for a data set. Data can be analyzed to predict the likelihood of an event happening. Describe a data set using the average or mean. Find the mean, median, mode, and range of a set of data. Make and interpret line plots. Organize and represent data in a stem-and leaf plot. Use a stem-and-leaf plot to find median, mode, and range.	CC.2.1.4.C.1 Extend the understanding of fractions to show equivalence and ordering. CC.2.2.4.A.1 Represent and solve problems involving the four operations. CC.K-12.MP.1 Solve problems and persevere in solving them CC.K-12.MP.2 Reason abstractly and quantitatively CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others	Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin	average mean median mode range line plot stem-and-leaf plot outlier outcome certain more likely equally likely less likely impossible

				Harcourt	favorable outcome probability

		Decide whether an outcome is certain, more likely, equally likely, less likely or impossible.
		
		Determine the probability of an event. Express probability as a fraction.
		
		Sole real-world problems involving probability and measures of central tendency.
		
		Thinking Skill:
		  Classifying
		
		Problem Solving Strategy:
		  Make a systematic list
			CC.K-12.MP.4 Model with mathematics
			
			CC.K-12.MP.6 Attend to precision.
			
			CC.K-12.MP.8 Look for and express regularity in repeated reasoning
			
			Math in Focus Chapter 5 Assessment
			
			C Day Fact Fluency checks		

December Chapter 6 **15 days**	**NUMBERS and OPERATIONS FRACTIONS** FRACTIONS AND MIXED NUMBERS	**BIG IDEA:** Fractions and mixed numbers are used to name wholes and parts of a whole. Fractions and mixed numbers can be added and subtracted. Find equivalent fractions Add unlike fractions Find equivalent fractions Subtract unlike fractions Write a mixed number for a model Draw a model to represent mixed numbers. Write an improper fraction for a model. Express mixed numbers as improper fractions. Use multiplication and division to rename improper fractions and mixed numbers. Add fractions to get mixed number sums. Subtract fractions from whole numbers.	CC.2.1.4.C.1 Extend the understanding of fractions to show equivalence and ordering. CC.2.1.4.C.2 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit. CC.2.4.4.A.4 Represent and interpret data involving fractions using information provided in a line plot. CC.K-12.MP.1 Solve problems and persevere in solving them CC.K-12.MP.2 Reason abstractly and quantitatively CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others	Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin Harcourt	numerator denominator equivalent fraction unlike fraction mixed number simplest form improper fraction fraction bar division rule multiplication rule

7/3/18

		Use a bar model to represent a fraction of a set. Find a fractional part of a number. Multiply a fraction and a whole number. Solve real-world problems involving fractions.	CC.K-12.MP.4 Model with mathematics CC.K-12.MP.6 Attend to precision CC.K-12.MP.7 Look for and make use of structure *Math in Focus* Chapter 6 Assessment C Day Fact Fluency checks		
January Chapter 7 **15 days**	DECIMALS	**BIG IDEA**: Decimals are another way to show amounts that are parts of a whole. A decimal has a decimal point to the right of the ones place and digits to the right of the decimal point. Read and write tenths in decimal and fractional forms. Represent and interpret tenths models. Read and write hundredths in decimal and fractional forms. Represent and interpret hundredths models. Compare and order decimals. Complete number patterns. Round decimals to the nearest whole number or tenth. Express a fraction as a decimal and a decimal as a fraction. **Thinking Skills:** Analyzing parts of a whole. Comparing	CC.2.1.4.C.3 Connect decimal notation to fractions and compare decimal fractions (base 10 denominator, e.g. 19/100). CC.2.2.4.A.4 Generate and analyze patterns using one rule. CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit. CC.K-12.MP.1 Solve problems and persevere in solving them CC.K-12.MP.2 Reason abstractly and quantitatively CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others CC.K-12.MP.4 Model with mathematics CC.K-12.MP.6 Attend to precision CC.K-12.MP.7 Look for and make use of structure CC.K-12.MP.8 Look for and express regularity in repeated reasoning	Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin Harcourt	tenth decimal form decimal point expanded form hundredth placeholder zero more than less than greater than least greatest order round equivalent fraction

			Math in Focus Chapter 7 Assessment		
			C Day Fact Fluency checks		
End Jan. - February Chapter 8 **9 days**	ADDING AND SUBTRACTING DECIMALS	**BIG IDEA:** Decimals can be added and subtracted in the same ways as whole numbers. Add decimals up to two decimal places. Subtract decimals up to two places. Solve real-world problems involving addition and subtraction of decimals. **Thinking Skill:** Logical reasoning **Problem Solving Strategy:** Use guess and check.	CC.2.1.4.B.1 Apply place value concepts to show an understanding of multi-digit whole numbers. CC.2.1.4.B.2 Use place-value understanding and properties of operations to perform multi-digit arithmetic. CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit. CC.K-12.MP.1 Solve problems and persevere in solving them CC.K-12.MP.4 Model with mathematics CC.K-12.MP.7 Look for and make use of structure CC.K-12.MP.8 Look for and express regularity in repeated reasoning *Math in Focus* Chapter 8 Assessment C-Day Fact Fluency check	Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin Harcourt	

February	**GEOMETRY**				

Chapter 9
 	
10 days
	ANGLES	**BIG IDEA**: Angles can be seen and measured when two rays or sides of a shape meet.
		
		Estimate and measure angles with a protractor.
		Estimate whether the measure of an angle is less than or greater than a right angle. (90°).
		
		Use a protractor to draw acute and obtuse angles.
		
		Relate ¼, ½ and ¾ and full turns to the number of right angles (90°).
		Understand what an angle measure of 1° represents. Find unknown angle measures using addition or subtraction.
		Solve real-world problems by finding unknown angle measures.
		
		Thinking Skill:
		  Spatial visualization
		  Comparing
		
		Problem Solving Strategy:
		  Act it out
			CC.2.4.4.A.6 Measure angles and use properties of adjacent angles to solve problems.
			
			CC.2.3.4.A.1 Draw lines and angles and identify these in two-dimensional figures.
			
			CC.K-12.MP.1 Solve problems and persevere in solving them.
			
			CC.K-12.MP.2 Reason abstractly and quantitatively
			
			CC.K-12.MP.4 Model with mathematics
			
			CC.K-12.MP.5 Use appropriate tools strategically
			
			CC.K-12.MP.6 Attend to precision
			
			Math in Focus Chapter 9 Assessment
			
			C-Day Fact Fluency Checks
				Morning Meeting
				
				Warm Up/ Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					ray
					vertex
					protractor
					degrees
					inner scale
					outer scale
					acute angle
					obtuse angle
					straight angle
					
					turn

February
 	
Chapter 10
 	
9 days
	MEASUREMENT AND DATA
	
	PERPENDICULAR AND PARALLEL LINE SEGMENTS
		BIG IDEA: Line segments can go up and down, from side to side, and in every direction.
		
		Draw perpendicular line segments.
		
		Draw parallel line segments.
		
		Identify horizontal and vertical lines.
		
		Thinking Skills:
		    Spatial visualization
		
		Problem Solving Strategy:
		    Act it out
			CC.2.3.4.A.1 Draw lines and angles and identify these in two-dimensional figures.
			
			CC.2.3.4.A.2 Classify two-dimensional figures by properties of their lines and angles.
			
			CC.K-12.MP.1 Solve problems and persevere in solving them
			
			CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others
			
			CC.K-12.MP.5 Use appropriate tools strategically.
			
			CC.K-12.MP.6 Attend to precision.
			
			Math in Focus Chapter 10 Assessment
			
			C-Day Fact Fluency Check
				Morning Meeting
				
				Warm Up/
				 Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					perpendicular line segments
					drawing triangle
					
					parallel line segments
					base
					
					horizontal lines
					vertical lines

Chapter 11
 	
8 days
	SQUARES AND RECTANGLES	**BIG IDEA**: Squares and rectangles are four-sided figures with special properties.
		
		Understand and apply the properties of squares and rectangles.
		
		Find unknown angle measures and side lengths of squares and rectangles.
		
		Thinking Skills:
		    Identifying patterns and relationships
		
		Problem Solving Strategies:
		    Act it out
		    Use a diagram
			CC.2.3.4.A.2 Classify two-dimensional figures by properties of their lines and angles.
			
			CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit.
			
			CC.2.4.4.A.6 Measure angles and use properties of adjacent angles to solve problems.
			
			CC.2.2.4.A.1 Represent and solve problems involving the four operations.
			
			CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others
				Morning Meeting
				
				Warm Up/
				 Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					square
					right angle
					rectangle
					parallel

			CC.K-12.MP.5 Use appropriate tools strategically CC.K-12.MP.6 Attend to precision CC.K-12.MP.7 Look for and make use of structure *Math in Focus* Chapter 11 Assessment C-Day Fact Fluency Check		
March Chapter 12 **12 days**	**MEASUREMENT AND DATA** CONVERSION OF MEASUREMENT	**BIG IDEA:** Measurement is a way of assigning number to objects, such as by their length, weight, or volume. Then, they can be compared. Understand the relative sizes of measurement units. Convert metric units of length. Convert customary units or length. Understand the relative sizes of measurement units. Convert metric units of mass and volume. Convert customary units of weight and volume. Understand the relative sizes of units of time. Convert units of time. Use the four operations to solve word problems involving distance, time, volume, mass, and money. Represent measurement quantities using line diagrams. **Thinking Skills:** Spatial visualization	CC.2.1.4.C.1 Extend the understanding of fractions to show equivalence and ordering. CC.2.1.4.C.2 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. CC.K-12.MP.1 Solve problems and persevere in solving them. CC.K-12.MP.2 Reason abstractly and quantitatively CC.K-12.MP.4 Model with mathematics CC.K-12.MP.6 Attend to precision *Math in Focus* Chapter 12 Assessment C Day Fact Fluency Check	Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin Harcourt	meter centimeter kilometer foot inch mile yard kilogram gram pound ounce ton liter milliliter gallon quart pint cup fluid ounce minute second hour

		Deduction
		
		Problem Solving Strategies:
		    Use a diagram
		    Make a systematic list			

March - April
 	
Chapter 13
 	
14 days
	AREA AND PERIMETER	**BIG IDEA:** Area and perimeter of a square , rectangle, or composite figure can be found by counting squares or using a formula.
		
		Estimate the area of a rectangle by counting grid squares.
		Find the area of a rectangle using a formula.
		
		Solve problems involving the area and perimeter or squares and rectangles.
		
		Find the perimeter and area of a composite figure.
		
		Solve word problems involving estimating area of figures.
		Solve word problems involving area and perimeter of composite figures.
		
		Thinking Skills:
		    Comparing
		    Identifying relationships
		    Making inferences
		    Deduction
		
		Problem Solving Strategy:
		    Make a systematic list
			CC.2.2.4.A.1 Represent and solve problems involving the four operations.
			
			CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit.
			
			CC.K-12.MP.1 Make sense of problems and persevere in solving them.
			
			CC.K-12.MP.2 Reason abstractly and quantitatively.
			
			CC.K-12.MP.3 Construct viable arguments and critique the reasoning of others.
			
			CC.K-12.MP.4 Model with mathematics
			
			CC.K-12.MP.5 Use appropriate tools strategically.
			
			CC.K-12.MP.6 Attend to precision.
			
			CC.K-12.MP.7 Look for and make use of structure
			
			CC.K-12.MP.8 Look for and express regularity in repeated reasoning
			
			Math in Focus Chapter 13 Assessment
			
			C- Day Fact Fluency Check
				Morning Meeting
				
				Warm Up/ Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					length
					width
					
					composite figure

| May Chapter 14 10 days | SYMMETRY | **BIG IDEA**: Figures can have line and rotational symmetry. Identify a line of symmetry of a figure. Relate rotational symmetry to turns. Trace a figure to determine whether it has rotational symmetry. Draw a shape or pattern about a line of symmetry and check for rotational symmetry. Complete a symmetric shape or pattern. Create symmetric patterns on grid paper. **Thinking Skill:** Spatial visualization **Problem Solving Strategy** Look for patterns Act it out | CC.2.3.4.A.2 Classify two-dimensional figures by properties of their lines and angles. CC.2.3.4.A.3 Recognize symmetric shapes and draw lines of symmetry. CC.2.2.4.A.4 Generate and analyze patterns using one rule. CC.K-12.MP.1 Make sense of problems and persevere in solving them. CC.K-12.MP.2 Reason abstractly and quantitatively. CC.K-12.MP.3 Use appropriate tools strategically. CC.K-12.MP.4 Model with mathematics CC.K-12.MP.6 Attend to precision. CC.K-12.MP.7 Look for and make use of structure. *Math in Focus* Chapter 14 Assessment C-Day Fact Fluency Check | Morning Meeting Warm Up/ Number Talks QUICK TABLES (ALEKS online program) *Math in Focus* Textbook 2015 Houghton Mifflin Harcourt | line of symmetry symmetric figure rotation center of rotation counter-clockwise rotational symmetry clockwise |

June
 	
Chapter 15
 	
9 days
	TESSELLATIONS	**BIG IDEA**: A tessellation is made when a shape (or shapes) is repeated, covering a plane (or surface) without gaps or overlaps to form patterns.
		
		Recognize and make tessellations.
		Identify the unit shape used in a tessellation.
		
		Tessellate shapes in different ways.
		
		Thinking Skill:
		  Spatial visualization
		
		Problem Solving Strategy:
		  Act it out
			CC.2.2.4.A.4 Generate and analyze patterns using one rule.
			
			CC.K-12.MP.1
			Make sense of problems and persevere in solving them.
			
			CC.K-12.MP.3 Use appropriate tools strategically.
			
			CC.K-12.MP.6 Attend to precision.
			
			Math in Focus Chapter 15 Assessment
			
			C-Day Fact Fluency Check
				Morning Meeting
				
				Warm Up/
				 Number Talks
				
				QUICK TABLES (ALEKS online program)
				
				Math in Focus Textbook 2015 Houghton Mifflin Harcourt
					tessellation
					slide
					flip
					repeated shape
					rotate
					
					modify