HOWELL TOWNSHIP
PUBLIC SCHOOLS

MATHEMATICS CURRICULUM FRAMEWORK

GRADE 4

BOARD APPROVED: August 23, 2017

Howell Township Public Schools
4th Grade Curriculum Map 2017-2018

Pacing	September	October	November	December	January	February	March	April	May	June
	Topic 1: Generalize Place Value Understanding **Topic 2:Fluently Add and Subtract Multi-digit Whole Numbers**	**Topic 3: Use Strategies and Properties to Multiply by 1-Digit Numbers** **Topic 4:Use Strategies and Properties**	**Topic 5: Use Strategies and Properties to Divide by 1-Digit Numbers**	**Topic 6:** Use Operations with Whole Numbers to Solve Problems	**Topic 7: Factors and Multiples** **Topic 8:** Extend Understanding of Fraction Equivalence and Ordering	**Topic 9:** Understand Addition and Subtraction of Fractions **Topic 10:** Extend Multiplication Concepts to Fractions	**Topic 12:** Understand and Compare Decimals	**Topic 11: Represent and Interpret Data on Line Plots** **Topic 13: Measurement : Find Equivalence in Units of Measure** **Topic 14:** Algebra: Generate and Analyze Patterns	**Topic 15:** Geometric Measurement : Understand Concepts of Angles and Angle Measurement **Topic 16:** Lines, Angles, and Shapes	Step Up to Grade 5
Hands On Equations	Level 1, Lesson 1	Level 1, Lesson 2	Level 1, Lesson 3	Level 1, Lesson 4	Level 1, Lesson 5	Level 1, Lesson 6	Level 1, Lesson 7	Level 1, Lesson 8		
NJSLS Domain	Number and Operations in Base Ten	Number and Operations in Base Ten	Number and Operations in Base Ten	Operations and Algebraic Thinking	Operations and Algebraic Thinking Number and Operations - Fractions	Number and Operations - Fractions	Number and Operations - Fractions	Measurement and Data Operations and Algebraic Thinking	Measurement and Data Geometry	
District Assessments	End of Year Assessment STAR Math Fluency Assessment				STAR Math Fluency Assessment			PARCC Math	End of Year Assessment Fluency Assessment	
Mathematical Practices	**Construct Arguments** MP.3 (Also, MP.1, MP.2, MP.6 **Reasoning**	**Model with Math** MP.4 *(Also, MP.1, MP.2,*	**Model with Math** MP.4 *(Also, MP.1,*	**Make Sense and Persevere** MP.1 *(Also, MP.4,*	**Construct Arguments** MP.3 *(Also, MP.1, MP.2, MP.5)*	**Model with Math** *MP.4 (Also, MP.1, MP.2, MP.5, MP.6)*	**Look for and Use Structure** MP.7 *(Also, MP.1,*	**Critique Reasoning** MP.3 *(Also, MP.1, MP.2, MP.4)* **Precision**	**Use Appropriate Tools** MP.5 *(Also, MP.1, MP.2, MP.4)* **Critique**	

	MP.2, *(Also, MP.1, MP.4, P.8)*	*MP.5, MP.6)* **Make Sense and Persevere** *MP.1 (Also, MP.2, MP.4, MP.6, MP.7)*	*MP.2, MP.6, MP.7, MP.8)*	*MP.4, MP.6)*			*MP.2, MP.3, MP.4, MP.6)*	MP.6 *(Also, MP.1, MP.2, MP.4)* **Look For and Use Structure** MP.7 *(Also, MP.1, MP.2)*	**Reasoning** MP.3 *(Also, MP.1, MP.2, MP.6, MP.7)*	
NJSLS – Technology	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1, 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3,	8.1.5.A.1 , 8.1.5.F.1, 8.2.5.C.4, 8.2.5.D.3 ,
NJSLS - Career Ready Practices	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12

Howell Township Public Schools
4th Grade Curriculum Map 2017-2018

Unit Summary	NJSLS Standards	Essential Questions
Unit 1: In this unit, students will extend their understanding of place value from 1,000 to 1,000,000. Students will read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. (Topic 1)	**4.NBT.A.1** Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division. **4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. **4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place.	How are greater numbers written? How can whole numbers be compared? How are place values related?
Learning Goals: • I will be able to understand how greater numbers are written, how whole numbers can be compared, and how place values are related.		
Vocabulary: place value, millions, period, expanded form, greater than symbol (>), less than symbol (<), rounding, conjecture,		
Fluency Expectations: Unit 1 Student Goals:		

Unit Summary	NJSLS Standards	Essential Questions
Unit 2: In this unit, students will focus on a deep	**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm. **4.NBT.B.5** Multiply a whole number of up to four digits by a one-	How can sums and differences of whole numbers be estimated?

understanding of whole number algorithms, including fluency with the standard algorithms for addition and subtraction and development of algorithms for multiplication and division. (Topics 2-5)	digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **4.NBT.B.6** Find whole -number quotients and remainders with up to four-digit dividends and one-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. **4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	What are the standard procedures for adding and subtracting whole numbers? How can you multiply by multiples of 10, 100, and 1,000? How can you estimate when you multiply? How can you use a model to multiply? How can you use the distributive property to multiply? How can you use multiplication to solve problems? How can mental math be used to divide? How can quotients be estimated? How can the steps for dividing be explained?

Learning Goals:

- Students will understand how sums and differences of whole numbers can be estimated, and understand the standard procedures for adding and subtracting whole numbers.
- Students will be able to understand how to multiply by multiples of 10, 100, and 1,000 and how to estimate when you multiply.
- Students will be able to use a model to multiply, use the Distributive Property to multiply, and use multiplication to solve problems.
- The student will be able to understand how mental math can be used to divide, how quotients can be estimated, and how the steps for dividing can be explained.

Vocabulary: commutative property of addition, associative property of addition, identity property of addition, counting on, compensation, variable, algorithm, inverse operations, associative property of multiplication, numerical expression, distributive property, compensation, commutative property of multiplication, partial products, compatible numbers, remainder, partial quotients

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Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4).

Unit 2 Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers

Enduring Understanding	NJSLS Standards	Essential Questions
Unit 3: In this unit, students will solve word problems using the strategies for whole number addition, subtraction, multiplication, and division. Students will interpret multiplication as a comparison situation by stating "times as many". (Topic 6)	**4.OA.A.1** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. **4.OA.A.2** Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.[1] **4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. **4.NBT.B.5** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **4.NBT.B.6** Find whole -number quotients and remainders with up to four-digit dividends and one-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.	How is comparing with multiplication different from comparing with addition? How can you use equations to solve multi-step problems?

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Learning Goal: The student will be able to understand how comparing with multiplication is different from comparing with addition, and how you can use equations to solve multi-step problems.		
Vocabulary: none		
Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4). Unit 3 Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers		
Enduring Understanding	NJSLS Standards	Essential Questions
Unit 4: In this unit, students will focus on understanding the meaning of factors and multiples by building on students' understanding of multiplication. The concepts of prime and composite numbers are developed through connections to the lessons on factors. (Topic 7)	**4.OA.B.4** Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. **4.NBT.B.5** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	How can you use arrays or multiplication to find the factors of a number? How can you identify prime and composite numbers? How can you find multiples of a number?
Learning Goals: • The student will be able use arrays or multiplication to find the factors of a number, identify prime and composite numbers, and find multiples of a number.		
Vocabulary:		
Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4). Unit 4 Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers		
Enduring Understanding	NJSLS Standards	Essential Questions

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Unit 5: In this unit, students focus on recognizing and generating equivalent fractions and on comparing fractions with different numerators and different denominators. This deep understanding of fraction equivalence and comparison provides a foundation for further work with fraction operations. (Topic 8) Students will focus on deepening their understanding of adding and subtracting fractions with like denominators and multiplying fractions by whole numbers. (Topics 9 and 10) Students will (Topic 10)	**4.NF.A.1** Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **4.NF.A.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. **4.NF.B.3a** Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. 3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8. c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and /or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole	What are some ways to name the same part of a whole? How can you compare fractions with unlike denominators? How do you add and subtract fractions and mixed numbers with like denominators? How can fractions be added and subtracted on a number line? How can you describe a fraction using a unit fraction? How can you multiply a whole number by a mixed number?

	and having like denominators, e.g., by using visual fraction models and equations to represent the problem. **4.NF.B.4a** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of 1/b. For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4). b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b. c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? **4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	

Learning Goals:

- The student will be able to name the same parts of a whole and compare fractions with unlike denominators.
- The student will be able to add and subtract fractions and mixed numbers with like denominators. The student will be able to add and subtract on a number line.

- The student will be able to describe a fraction using a unit fraction and multiply a whole number by a mixed number.

Vocabulary: equivalent fractions, fraction, numerator, denominator, common factor, benchmark fraction, decompose, compose, mixed number, unit fraction

Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4).

Unit 5: Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers

Enduring Understanding	NJSLS Standards	Essential Questions
Unit 6: In this unit, students will focus on line plots and extend their understanding of how to read and make line plots. (Topic 11)	**4.MD.B.4** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection. **4.NF.A.1** Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **4.NF.B.3** Understand a fraction a/b with a > 1 as a sum of fractions 1/b. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	Can you read data on a line plot? How does a line plot assist you in interpreting data?

Learning Goals:

- The student will be able to read data on a line plot and make a line plot.

Vocabulary: line plot, outlier,

Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4).

Unit 6: Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract

multi-digit whole numbers		
Enduring Understanding	NJSLS Standards	Essential Questions
Unit 7: In this unit, students will focus on developing understanding of decimals and decimal notation through hundredths by connecting fractions and decimals. The students will apply their understanding of equivalent fractions to rewrite a fraction written in tenths as a fraction written in hundredths, and they add a fraction with a denominator of 10 and a fraction with a denominator of 100. (Topic 12)	**4.NF.C.5** Understand decimal notation for fractions, and compare decimal fractions. 5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[4] For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100. **4.NF.C.6** Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. **4.NF.C.7** Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model. **4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. **4.NF.C.7** Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model. **4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals,	How can you write a fraction as a decimal? How can you locate points on a number line? How do you compare decimals?

	and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. 4Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.	
Learning Goal: The student will be able to write a fraction as a decimal, locate points on a number line, and compare decimals.		
Vocabulary: tenth, hundredth, decimal, decimal point,		
Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4). Unit 7: Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers		
Enduring Understanding	NJSLS Standards	Essential Questions
Unit 8: In this unit, students will focus on converting measurements from larger to smaller units within one system of measurement. Students will be able to identify customary units of length, capacity, and mass. Additionally, students will solve problems involving measurement and	**4.MD.A.1** Know relative sizes of measurement units within one system of units including km, m, cm, mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. For example, know that 1 ft is 12 times as long as 1in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... **4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement	How can you convert from one unit to another? How can you be precise when solving math problems?

conversion of measurements from a larger unit to a smaller unit. (Topic 13)	quantities using diagrams such as number line diagrams that feature a measurement scale. **4.MD.A.3** Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. **4.NF.B.3d** Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. **4.NF.B.4c** Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? **4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm. **4.NBT.B.5** Multiply a whole number of up to four digits by a one -digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	
Learning Goal: The student will be able to convert from one unit to another and be precise when solving math problems.		
Vocabulary: capacity, quart, gallon, cup, pint, fluid ounce, weight, ounce, pound, ton, millimeter, centimeter, meter, kilometer, mass, milliliter, liter, gram, milligram, kilogram, perimeter, area, formula		
Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4). Unit 8: Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers		

Howell Township Public Schools
4th Grade Curriculum Map 2017-2018

Enduring Understanding	NJSLS Standards	Essential Questions
Unit 9: In this unit, students will focus on patterns and rules. Students will use addition, subtraction, multiplication, and division rules to generate number patterns. (Topic 14) Students will focus on developing a deep understanding of angle concepts and angle measurement. (Topic 15) Students will focus on understanding how shapes can be analyzed, described, and classified, with particular attention to properties of sides, angles, and lines of symmetry. (Topic 16)	**4.OA.C.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way 4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees. **4.MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. **4.MD.C.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. **4.G.A.1** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. **4.G.A.2** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	How can you use a rule to continue a pattern? How can you use a table to extend a pattern? How can you use a repeating pattern to predict a shape? Can geometry be seen everywhere? Can angles be measured without a protractor? How can you classify triangles and quadrilaterals? Can a line of symmetry been seen anywhere?

	4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	

Learning Goal:

- The student will be able to use a ruler to continue a pattern and can use a table to extend a pattern. Students will be able to use a repeating pattern to predict a shape.
- The student will name some common geometric terms, and be able to measure angles.
- The student will be able to classify triangles and quadrilaterals and explain line symmetry.

Vocabulary: rule, repeating pattern, point, line, line segment, ray, right angle, acute angle, obtuse angle, straight angle, degree, unit angle, angle measure, protractor, vertex, parallel lines, perpendicular lines, intersecting lines, right triangle, obtuse triangle, acute triangle, equilateral triangle, isosceles triangle, scalene triangle, parallelogram, rectangle, square, rhombus, trapezoid, line symmetric, line of symmetry,

Fluency Expectations: Students are expected to fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.B.4).

Unit 9: Student Goals: Fluently add within 100, fluently subtract within 100, fluently add and subtract within 1,000, fluently add and subtract multi-digit whole numbers

Preparing for 5th Grade Standards