Jackson County Core Curriculum Collaborative (JC4)	
4th Grade Math	
Standard	**Learning Targets in Student Friendly Language**
4.OA.1	I can represent multiplicative comparisons as multiplication equations.
	I can explain how a multiplication equation can be interpreted as a comparison.
	I can write an equation for a situation involving multiplicative comparison.
	I can recognize the mathematical language that describes multiplicative comparisons.
	I can interpret multiplicative comparison situations identifying which quantity is being multiplied and which factor is telling how many times.
4.OA.2	I can multiply or divide to solve word problems involving multiplicative comparison.
	I can solve multiplicative comparison word problems with multiplication or division using drawings, arrays and equations.
	I can distinguish between multiplicative (as many times as) and additive (more) comparisons.
	I can identify keywords to select the correct operation(s) to solve a word problem.
	I can write an equation using a variable to represent the unknown.
4.OA.3	I can solve multi-step word problems using all four operations.
	I can identify keywords to select the correct operation(s) to perform at each step of a multi-step word problem.
4.OA.3	I can represent the context of a word problem, (including problems with remainders) using drawings and equations.
	I can solve multi-step problems with all four operations using models or pictures and numbers.
	I can justify the reasonableness of solutions using estimation, mental computation, and rounding.
	I can interpret what a remainder represents in a word problem.
	I can use variables to represent unknown quantities in a problem.
4.OA.4	I can explain the relationship between factors and multiples.
	I can define factors and multiples.
4.OA.4	I can name the factors of all whole numbers 0-100.
	I can identify all the factor pairs for a whole number in the range 1-100.
4.OA.4	I can determine whether any number 0-100 is a multiple of a given one-digit number.
	I can determine if a whole number is a multiple of a given one digit number.
4.OA.4	I can determine whether any number 0-100 is prime or composite.
	I can define prime and composite.
	I can determine and write if a whole number is prime or composite.
4.OA.5	I can create a number or shape pattern that follows a rule.
	I can identify the pattern or rule for a given set of numbers or shapes.
	I can generate a number or shape pattern that follows a given rule.
4.OA.5	I can describe what I notice about a pattern besides the rule itself.
	I can draw conclusions regarding the features of the pattern not directly related to the rule.
4.NBT.1	I can explain the relationship between digits in different places within a whole number.
	I can define a number in one place as 10 times its value in the place to its right.
	I can identify place value of a multi-digit whole number up to millions.
4.NBT.2	I can read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form.
	I can read and write whole numbers in standard form, word form, and expanded form up to one million.
4.NBT.2	I can compare multi-digit numbers using the symbols >, =, and <.

	I can compare and order whole numbers based on the meaning of place value.
	I can compare and order whole numbers using <, >, = up to one million.
4.NBT.3	I can round multi-digit whole numbers to a given place.
	I can explain how to use place value and what digits to look for in order to round a multi-digit whole number.
	I can round multi-digit whole numbers up to a million to any place value.
4.NBT.4	I can add and subtract multi-digit whole numbers fluently.
	I can fluently add and subtract multi-digit numbers, less than or equal to 1,000,000 using the standard algorithm.
4.NBT.5	I can multiply whole numbers using a variety of strategies. (4 digits x 1 digit; 2 digits x 2 digits).
	I can multiply up to four digits by a one digit number using place value strategies and the properties of operations.
	I can multiply two two-digit numbers using place value strategies and the properties of operations.
4.NBT.5	I can prove my calculations are correct using equations, rectangular arrays, and/or area models.
	I can illustrate and explain multiplication calculations through equations, rectangular arrays, and/or area models.
4.NBT.6	I can find whole-number quotients and remainders using a variety of strategies.
	I can divide whole numbers with up to 4-digit dividends and 1-digit divisors; quotients may contain remainders.
	I can explain the relationship between multiplication and division when finding quotients with a remainder.
	I can divide whole numbers using strategies based on place value, properties of operations, and the relationships between multiplication and division.
4.NBT.6	I can prove my calculations are correct using equations, rectangular arrays, and/or area models.
	I can draw and explain calculations through equations, rectangular arrays, and/or area models.
4. NF	Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.
4.NF.1	I can explain the concept of fraction equivalence.
	I can use models to describe and recognize equivalent fractions.
	I can explain why two fractions are equivalent using models.
4.NF.1	I can create equivalent fractions.
	I can generate equivalent fractions by multiplying or dividing the numerator and denominator by the same number.
	I can explain why multiplying a fraction by an equivalent form of 1 (2/2, 3/3, etc) results in an equivalent fraction.
4.NF.1	I can reason about fraction size and equivalence using visual models.
	I can use visual models to justify equivalent fractions.
	I can draw a fraction model to identify equivalent fractions.
4.NF.2	I can compare two fractions with different numerators and denominators using appropriate mathematical symbols (<, >, =).
	I can compare two fractions with different numerators and different denominators by creating common numerators or denominators.

	I can compare and order two fractions with unlike numerators and denominators by comparing them to benchmark fractions.
	I can explain that comparisons between two fractions are only valid when referring to the same whole.
4.NF.2	I can prove my fraction comparisons using visual models.
	I can justify comparison between two fractions using a visual fraction model.
4.NF.3.a	I can describe a fraction as the sum of smaller fractions.
	I can understand addition and subtraction of fractions as joining or separating parts referring to the same whole.
4.NF.3.b	I can prove my fraction decomposition using equations and visual models.
	I can explain why rewriting a fraction is equivalent to the original fraction by using a visual fraction model.
	I can rewrite a fraction into a sum of smaller fractions with the same denominator.
	I can write each fraction decomposition as an equation.
4.NF.3.c	I can add and subtract fractions and mixed numbers with like denominators using a variety of strategies.
	I can add fractions and mixed numbers with like denominators using properties of operations, equivalent fractions, and the relationship between addition and subtraction.
	I can convert mixed numbers to improper fractions to add and subtract fractions with like denominators.
	I can subtract fractions and mixed numbers with like denominators using properties of operations, equivalent fractions, and the relationship between addition and subtraction.
4.NF.3.d	I can represent the context of a fraction word problem and solve it using a variety of models.
	I can identify the operation needed to solve a fraction word problem.
	I can solve word problems involving addition and subtraction of fractions referring to the same whole with like denominators.
	I can solve word problems involving addition and subtraction of fractions by using a visual fraction model and equations to represent the problem.
4.NF.4	I can multiply a fraction by a whole number (meaning a whole number of groups of a given fraction).
4.NF.4.a	I can model and explain the meaning of whole number multiplication and extend the model to multiply a fraction by a whole number.
	I can generate multiples of the fraction 1/b.
	I can identify the relationship between repeated addition and multiplication.
	I can rewrite a fraction as a unit fraction (numerator = 1) with the same denominator multiplied by the numerator written as a whole number.
4.NF.4.b	I can represent fractions using various multiplication equations.
	I can multiply a fraction by a whole number by decomposing the fraction as the numerator multiplied by the unit fraction of its denominator.
4.NF.4.c	I can create a numeric expression from a word problem involving the multiplication of a whole number and a fraction.
	I can solve word problems involving the multiplication of whole numbers and fractions.
4.NF.5	I can create equivalent fractions whose denominators are 10 and 100 and use this technique to add the fractions.
	I can convert fractions with a denominator of 10 to an equivalent fraction with a denominator of 100.

	I can add two fractions with denominators of 10 and 100 after finding equivalent fractions with common denominators.
4.NF.6	I can use decimals to describe fractions with denominators of 10 and 100.
	I can explain the relationship between a fraction and the decimal representation.
	I can convert fractions with denominators of 10 and 100 to decimals.
	I can describe lengths in decimal form.
	I can locate decimals to the hundredths place on a number line.
4.NF.7	I can compare two decimals to the hundredths place using appropriate mathematical symbols (<, >, =).
	I can compare and order decimals to hundredths.
	I can use <, >, = symbols to record my comparison of two decimals to the hundredths place.
	I can draw a visual model to reason about the size of decimals.
	I can explain that comparisons between two decimals are only valid when referring to the same whole.
4.MD.1	I can describe and compare the approximate sizes of units within one measurement system (metric, standard, time, etc.) and convert between units.
	I can identify an appropriate unit of measurement within a given system including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec.
	I can order units of measurement within a given system.
	I can convert larger units of measurement to smaller units of measurement within a given system.
	I can construct a conversion table to record equivalent measurements of two units within a given system.
4.MD.2	I can solve measurement word problems involving distances, time, mass, volume, and money.
	I can solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.
	I can convert larger unit measurements to smaller unit measurements in order to solve word problems.
	I can construct diagrams such as line diagrams to show conversions in measurement.
4.MD.3	I can use area and perimeter formulas to solve real-world problems.
	I can explain that the formula for the perimeter of a rectangle is 2L + 2W or L+L+W+W.
	I can explain that the formula for the area of a rectangle is L x W.
	I can apply the formula for the perimeter of a rectangle to solve real-world and mathematical problems.
	I can apply the formula for the area of a rectangle to solve real-world and mathematical problems.
	I can solve area and perimeter problems that have an unknown factor (n).
4.MD.4	I can make a line plot to display a data set involving fractions of a measurement unit.
	I can construct a line plot to display data of fractional measurements.
4.MD.4	I can use a line plot to solve fraction word problems involving addition and subtraction.
	I can compare data displayed in the line plot to solve addition and subtraction problems.
4.MD.5.a	I can describe angles using geometric vocabulary.
	I can define an angle measure as the fraction of the circular arc between two rays with a common endpoint.
	I can identify the parts of an angle (vertex, common endpoint, rays) and define an angle.
4.MD.5.b	I can explain how to measure an angle of *n* degrees.

	I can calculate *n* one-degree angles as having a measurement of *n* degrees.
	I can measure angles of *n* degrees.
4.MD.6	I can measure and draw angles using a protractor.
	I can measure angles with a protractor (half circle protractors and full circle protractors).
	I can draw an angle of a specified whole-number measure with a protractor.
4.MD.7	I can determine the measurement of a larger angle using smaller angle measurements.
	I can explain that the angle measurement of a larger angle is the sum of the angle measures of its decomposed parts.
	I can write an equation with an unknown angle measurement.
	I can use addition and subtraction to solve for the missing angle measurements.
	I can solve word problems involving unknown angles.
4.G.1	I can draw points, lines (parallel and perpendicular), line segments, rays, and angles (right, acute, obtuse) and can identify them in other shapes.
	I can classify angles as right, acute, or obtuse.
	I can draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.
	I can analyze two-dimensional figures to identify points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.
4.G.2	I can classify shapes based on lines and angles.
	I can classify 2D figures based on the presence or absence of parallel or perpendicular lines.
	I can classify 2D figures based on the presence or absence of specified angle measures.
	I can define right triangles as their own category and identify right triangles in drawings.
4.G.3	I can identify or draw a line of symmetry in a two-dimensional figure.
	I can recognize lines of symmetry for a two-dimensional figure.
	I can draw lines of symmetry for two-dimensional figures.
Key:	
Yellow Highlight = Critical Area	
Blue Font Color = Long Term Learning Goal	
Black Font Color = Short Term (possibly daily) learning target WITHOUT condition and criteria.	
Red font color = Limitation to the expectation (footnote in the MDE document)	