Standard	Minimally Proficient	Partially Proficient	Proficient	Highly Proficient
	The Minimally Proficient student	The Partially Proficient student	The Proficient student	The Highly Proficient student
Operations and Algebraic Thinking				
4.OA.A.1	Identify multiplication equations that represent verbal statements of multiplicative comparisons with visual support.	Interpret multiplication equations that represent verbal statements of multiplicative comparisons with visual support. Recognize that a multiplication equation is a comparison.	Represent verbal statements of multiplicative comparisons as multiplication equations. Interpret a multiplication equation as a comparison (e.g., 35 is the number of objects in 5 groups, each containing 7 objects, and is also the number of objects in 7 groups, each containing 5 objects).	Create verbal statements of multiplicative comparisons to represent a given multiplication equation. Explain how a multiplication equation is a comparison.
4.OA.A.2	Identify products and quotients within 1000 to solve word problems involving multiplicative comparison when a visual model is given.	Multiply or divide within 1000 to solve word problems involving multiplicative comparison when a visual model is given.	Multiply or divide within 1000 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).	Identify a word problem involving multiplicative comparison within 1000 that is solved by a given multiplication or division expression.
4.OA.A.3	Solve two-step word problems using the four operations with visual support. Identify the remainder as a fraction of the divisor. Identify equations with a letter standing for the unknown quantity that represents these problems.	Solve multistep word problems using the four operations. Identify the remainder as a fraction of the divisor. Identify equations with a letter standing for the unknown quantity that represents these problems.	Solve multistep word problems using the four operations, including problems in which remainders must be interpreted. Understand how the remainder is a fraction of the divisor. Represent these problems using equations with a letter standing for the unknown quantity.	Solve multistep word problems using the four operations, including problems in which remainders must be interpreted. Explain why the remainder is a fraction of the divisor. Create word problems that can be solved using equations with a letter standing for the unknown quantity.
4.OA.B.4	Identify a factor pair for a whole number in the range 1 to 100.	Identify all factor pairs for a whole number in the range 1 to 100 and identify whole numbers that are a multiple of a given factor.	Find all factor pairs for a whole number in the range 1 to 100 and understand that a whole number is a multiple of each of its factors.	Explain why a whole number is a multiple of each of its factors.
4.OA.C.5	Identify a number pattern that follows a given rule.	Identify a number pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	Generate a number pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself and explain the pattern informally (e.g., 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).	Create a rule for a given number pattern. Explain features of the pattern that are not explicit in the rule and explain the rule informally.
4.OA.C.6	Recognize whether an answer is reasonable or not when rounding.	Use rounding to determine the reasonableness of answers when using the four operations to solve problems.	When solving problems, assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Recognize the reasonableness of answers using different types of estimation strategies when using the four operations to solve problems. Choose the best estimation strategy for a specific purpose.

	Number and Operations in Base Ten			
4.NBT.A.1	Identify which place value in a multi-digit whole number represents ten times the value of a given place value.	Given two multi-digit whole numbers, with a digit in different place values in each number, identify how many times the value of the digit is in one number compared to the other number.	Apply concepts of place value, multiplication, and division to understand that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.	Apply concepts of place value, multiplication, and division to explain why a digit in one place represents ten times what it represents in the place to its right.
4.NBT.A.2	Identify three-digit whole numbers using base-ten numerals and number names. Compare two three-digit numbers based on meanings of the digits in each place.	Identify 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.	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.	Read, write, and order multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare more than 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 three-digit whole numbers to the hundreds place.	Use place value understanding to round multi-digit whole numbers to the largest place.	Use place value understanding to round multi-digit whole numbers to any place.	Explain how to round multi-digit whole numbers to any place.
4.NBT.B.4	Fluently add and subtract multi-digit whole numbers using strategies and algorithms based on the relationship between addition and subtraction.	Fluently add and subtract multi-digit whole numbers using strategies and algorithms based on place value and/or the relationship between addition and subtraction.	Fluently add and subtract multi-digit whole numbers using a standard algorithm.	Recognize and explain an error made while finding a sum or a difference, and give the correct answer.
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 visual models.	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 the calculation by using rectangular arrays and/or area models.	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.	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers. Explain the calculation by using equations.
4.NBT.B.6	Identify whole-number quotients with up to four-digit dividends and one-digit divisors.	Demonstrate understanding of division by identifying whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.	Demonstrate understanding of division by finding whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.	Demonstrate understanding of division by explaining the meaning of whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.

	Number and Operations - Fractions			
4.NF.A.1	Identify equivalent fractions.	Generate equivalent fractions.	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ 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 understand and generate equivalent fractions.	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models. Explain why the number and size of the parts is important in determining if two fractions are the same size. Use this principle to explain 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 and by comparing to a benchmark fraction). a. Determine whether or not two fractions refer to the same size whole. b. Compare two fraction models using the symbols >, =, or <.	Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators and by comparing to a benchmark fraction). a. Determine whether or not comparing two fractions is valid based on whether or not the fractions refer to the same size whole. b. Compare two fractions using the symbols >, =, or <.	Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators and by comparing to a benchmark fraction). a. Understand that comparisons are valid only when the two fractions refer to the same size whole. b. Record the results of comparisons with symbols >, =, or <, and justify the conclusions.	Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators and by comparing to a benchmark fraction). a. Explain why comparisons are valid only when two fractions refer to the same size whole. b. Record the results of comparing multiple fractions with symbols >, =, or <, and justify the conclusions.
4.NF.B.3	Understand a fraction a/b with a > 1 as a sum of unit fractions ($1/b$). a. Recognize addition of fractions as joining parts referring to the same whole. b. Identify a correct decomposition of a fraction into a sum of fractions with the same denominator in one way (e.g., 3/8 = 1/8 + 1/8+1/8). c. Add mixed numbers with like denominators, where regrouping is not necessary. d. Identify the solution to word problems involving addition of fractions referring to the same whole and having like denominators.	Understand a fraction a/b with a > 1 as a sum of unit fractions ($1/b$). a. Recognize addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Identify a correct decomposition of a fraction into a sum of fractions with the same denominator in more than one way (e.g., 3/8 = 1/8 + 1/8+1/8; 3/8 = 2/8 + 1/8; 2 1/8 = 1 + 1 + 1/8 or 2 1/8 = 8/8 + 8/8 + 1/8). c. Add and subtract mixed numbers with like denominators where regrouping is not necessary. d. Identify the solution to word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.	Understand a fraction a/b with a > 1 as a sum of unit 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 (e.g., 3/8 = 1/8 + 1/8+1/8; 3/8 = 2/8 + 1/8; 2 1/8 = 1 + 1 + 1/8 or 2 1/8 = 8/8 + 8/8 + 1/8). c. Add and subtract mixed numbers with like denominators (e.g., by using properties of operations and the relationship between addition and subtraction and/or by replacing each mixed number with an equivalent fraction). d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.	Understand a fraction a/b with a > 1 as a sum of unit fractions ($1/b$). a. Explain how addition and subtraction of fractions is joining and separating parts referring to the same whole. b. Explain how to decompose a fraction into a sum of fractions with the same denominator in more than one way (e.g., 3/8 = 1/8 + 1/8+1/8; 3/8 = 2/8 + 1/8; 2 1/8 = 1 + 1 + 1/8 or 2 1/8 = 8/8 + 8/8 + 1/8). c. Explain how to add and subtract mixed numbers with like denominators (e.g., by using properties of operations and the relationship between addition and subtraction and/or by replacing each mixed number with an equivalent fraction). d. Solve word problems involving addition and subtraction of fractions referring to the same whole but having different denominators.

4.NF.B.4	Build fractions from unit fractions. a. Identify the product when a whole number is multiplied by a unit fraction. In general, $a/b = a \times 1/b$. b. Identify the product when a whole number is multiplied by a fraction. In general, $n \times a/b = (n \times a)/b$. c. Identify the solution to word problems involving multiplication of a whole number by a fraction.	Build fractions from unit fractions. a. Determine the product when a whole number is multiplied by a unit fraction. In general, $a/b = a \times 1/b$. b. Determine the product when a whole number is multiplied by a fraction. In general, $n \times a/b = (n \times a)/b$. c. Determine the solution to word problems involving multiplication of a whole number by a fraction.	Build fractions from unit fractions. a. Understand a fraction a/b as a multiple of a unit fraction $1/b$. In general, $a/b = a \times 1/b$. b. Understand a multiple of a/b as a multiple of a unit fraction $1/b$, and use this understanding to multiply a whole number by a fraction. In general, $n \times a/b = (n \times a)/b$. c. Solve word problems involving multiplication of a whole number by a fraction. *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?*	Build fractions from unit fractions. a. Explain why a fraction a/b is a multiple of a unit fraction $1/b$. b. Understand a multiple of a/b as a multiple of a unit fraction $1/b$, and use this understanding to multiply a whole number by a fraction. In general, $n \times a/b = (n \times a)/b$. c. Create word problems involving multiplication of a whole number by a fraction.
4.NF.C.5	Identify equivalent fractions, one with denominator 10 and one with denominator 100. *For example, identify 3/10 as equivalent to 30/100.*	Identify equivalent fractions, one with denominator 10 and one with denominator 100. Identify the sum of two fractions with respective denominators 10 (tenths) and 100 (hundredths). *For example, identify 3/10 as equivalent to 30/100, and identify that 3/10 + 4/100 = 34/100.*	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 (tenths) and 100 (hundredths). *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.* (Note: Students 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.)	Express a fraction with denominator 10 as an equivalent fraction with denominator a multiple of 10, and use this technique to add two fractions with the respective denominators. *For example, express 3/10 as 300/1000, and add 3/10 + 40/1000 = 340/1000.*
4.NF.C.6	Identify decimal notation for fractions with denominators 10 (tenths) or 100 (hundredths).	Identify decimal notation for fractions with denominators 10 (tenths) or 100 (hundredths), and locate these decimals on a number line.	Use decimal notation for fractions with denominators 10 (tenths) or 100 (hundredths), and locate these decimals on a number line.	Use decimal notation for fractions and mixed numbers with denominators a multiple of 10. Explain the location of these decimals on a number line.
4.NF.C.7	Compare two decimals, referring to the same whole, to hundredths.	Compare two decimals, referring to the same whole, to hundredths. Record the results of comparisons with the symbols >, =, or <.	Compare two decimals to hundredths by reasoning about their size. Understand that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <.	Compare two decimals to hundredths by reasoning about their size. Explain why comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <.

	Measurement and Data			
4.MD.A.1	Identify the relative sizes of measurement units within one system of units which could include km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, identify measurements in a larger unit in terms of a smaller unit.	Identify the relative sizes of measurement units within one system of units which could include km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, identify measurements in a larger unit in terms of a smaller unit and in a smaller unit in terms of a larger unit.	Know relative sizes of measurement units within one system of units which could include km, m, cm; 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 and in a smaller unit in terms of a larger unit. *For example, know that 1 ft is 12 times as long as 1 in. 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).*	Explain how different sizes of measurement units within one system of units relate to each other. Within a single system of measurement, explain how to convert measurements from a larger unit to a smaller unit and from a smaller unit to a larger unit. Generate a conversion table for measurements within one system of units.
4.MD.A.2	Use the four operations to identify solutions to word problems and problems in real-world context involving distances, intervals of time (hr, min, sec), liquid volumes, masses of objects, and money, including decimals. Represent measurement quantities using number lines that feature a measurement scale.	Use the four operations to identify solutions to word problems and problems in real-world context involving distances, intervals of time (hr, min, sec), liquid volumes, masses of objects, and money, including decimals and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using a variety of representations, including number lines that feature a measurement scale.	Use the four operations to solve word problems and problems in real-world context involving distances, intervals of time (hr, min, sec), liquid volumes, masses of objects, and money, including decimals and problems involving fractions with like denominators, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using a variety of representations, including number lines that feature a measurement scale.	Explain how to use the four operations to solve word problems and problems in real-world context involving distances, intervals of time (hr, min, sec), liquid volumes, masses of objects, and money, including decimals and problems involving fractions with like denominators, and problems that require expressing measurements given in a smaller unit in terms of a larger unit. Represent measurement quantities using a variety of representations, including number lines that feature a measurement scale.
4.MD.A.3	Identify the area and perimeter for rectangles in mathematical problems.	Identify the area and perimeter for rectangles in mathematical problems and problems in real-world contexts.	Apply the area and perimeter formulas for rectangles in mathematical problems and problems in real-world contexts including problems with unknown side lengths.	Explain the difference between the area and perimeter formulas for rectangles. Use the area and perimeter formulas to determine unknown side lengths of a rectangle.
4.MD.B.4	Identify 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 of fractions by using information presented in line plots.	Identify 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.	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.	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Create problems involving addition and subtraction of fractions by using information presented in line plots.

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. Recognize that a "one-degree angle" turns through 1/360 of a circle. b. Recognize that an "n degree angle" turns through n/360 of a circle.	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. Identify a one-degree angle, with its common endpoint at the center of a circle, as being 1/360 of the circle. b. Identify an "n degree angle," with its common endpoint at the center of a circle, as being n/360 of the circle.	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.	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. Explain how an angle is measured with reference to a circle with its center at the common endpoint of the rays and how the angle measure is the same as the fraction of the circular arc between the points where the two rays intersect the circle. b. Explain why an angle that turns through n one-degree angles is said to have an angle measure of n degrees.
4.MD.C.6	Identify angles measures in whole-number degrees using a protractor, when one of the rays is horizontal.	Identify angles measures in whole-number degrees using a protractor. Add a second ray to sketch angles of specified measure when given a horizontal ray.	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	Measure angles in whole-number degrees using a protractor, including when the angle does not have a horizontal ray.
4.MD.C.7	Solve addition problems to find unknown angles on a diagram within mathematical problems as well as problems in real-world contexts.	Solve addition and subtraction problems to find unknown angles on a diagram within mathematical problems as well as problems in real-world contexts.	Understand angle measures 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 within mathematical problems as well as problems in real-world contexts.	Understand angle measures 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.) Create addition and subtraction problems, mathematical problems as well as problems in real-world contexts, for angles represented on a diagram.

Geometry				
4.G.A.1	Identify points, lines, line segments, rays, angles, and lines in two-dimensional figures.	Identify and draw points, lines, line segments, rays, angles, and perpendicular and parallel lines in two-dimensional figures.	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	Explain characteristics that define points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.
4.G.A.2	Identify two-dimensional figures based on the presence or absence of parallel or perpendicular lines.	Identify 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.	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 (e.g., understand right triangles as a category, and identify right triangles).	Classify two-dimensional figures into more than one category based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size (e.g., understand right triangles as a category, and identify right triangles).
4.G.A.3	Identify a line of symmetry for a two-dimensional figure.	Identify line-symmetric figures and draw lines of symmetry.	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.	Explain that a line of symmetry for a two-dimensional figure is a line across the figure such that the figure can be folded along the line into matching parts. Draw line-symmetric figures.