**2015-2016 Standards Pacing Guide – Fourth Grade**

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| **Standards** | | **Struggling** | **Progressing** | **Meets** | **Advanced** |
| 4.OA.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. |  |  | Interprets and represents in a statement that a multiplication equation is a comparison |  |
| 4.OA.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. |  |  | Multiplies and divides to solve word problems using multiple strategies and distinguishes multiplicative vs. additive comparison |  |
| 4.OA.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. |  |  | Solves multi-step word problems with whole numbers using the 4 operations and is able to interpret remainders and the reasonableness of mental computation and estimations |  |
| 4.OA.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. |  |  | Finds and determines all factor pairs for whole numbers through 100 and whether a number is prime or composite |  |
| 4.OA.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. |  |  | Generates a number or shape pattern that follows a given rule and identify features not explicitly given |  |
| 4.NBT.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. |  |  | Recognizes place value of digits in a multi-digit whole number represents ten times a digit to the right |  |
| 4.NBT.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 |  |  | Reads, writes, and compares multi-digit whole numbers using multiple names and forms with <,> and = to. |  |
| 4.NBT.3 | Use place value understanding to round multi-digit whole numbers to any place. |  |  | Rounds multi-digit whole numbers to any place with the understanding of place value |  |
| 4.NBT.4 | Fluently add and subtract multi-digit whole numbers using the standard algorithm. |  |  | Adds and subtracts multi-digit whole numbers |  |
| 4.NBT.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. |  |  | Illustrates and explains how to multiply whole numbers using multiple strategies |  |
| 4.NBT.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. |  |  | Illustrates and explains how to divide whole numbers with remainders using multiple strategies |  |
| 4.NF.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. |  |  | Explains, recognizes and generates equivalent fractions |  |
| 4.NF.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 |  |  | Compares two fractions with different numerators and denominators using <, > or = |  |
| 4.NF.3 | Understand a fraction a/b with a 1 as a sum of fractions 1/b. |  |  |  |  |
| 4.NF.3a | Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. |  |  |  |  |
| 4.NF.3b | 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. |  |  | Decomposes and justifies decomposition of fractions with same denominators using multiple strategies |  |
| 4.NF.3c | 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. |  |  | Adds and subtracts mixed numbers with like denominators |  |
| 4.NF.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. |  |  | Adds and subtracts fractions with like denominators in word problems using multiple strategies |  |
| 4.NF.4 | Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. |  |  | Multiplies fractions by a whole number |  |
| 4.NF.4a | Understand a fraction a/b as a multiple of 1/b. |  |  |  |  |
| 4.NF.4b | Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. |  |  |  |  |
| 4.NF.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. |  |  | Multiplies fractions by a whole number in word problems using multiple strategies |  |
| 4.NF.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. |  |  | Expresses and adds fractions with denominators of 10 as equivalent fractions with denominators of 100 |  |
| 4.NF.6 | Use decimal notation for fractions with denominators 10 or 100. |  |  | Uses decimal notation for fractions with denominators of 10 or 100 |  |
| 4.NF.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 |  |  | Compares two decimals to hundredths and records results as <, > or = |  |
| 4.MD.1 | Know relative sizes of measurement units within one system of units including 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. Record measurement equivalents in a two column table. |  |  | Knows sizes of measurement units and records measurement equivalents in a two-column table |  |
| 4.MD.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. |  |  | Solves word problems using the four operations involving a variety of concepts |  |
| 4.MD.3 | Apply the area and perimeter formulas for rectangles in real world and mathematical problems. |  |  | Solves area and perimeter in real world and mathematical problems |  |
| 4.MD.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. |  |  | Makes and displays information on a line plot allowing for information to be used to solve the addition and subtraction of fractions |  |
| 4.MD.5 | Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: |  |  | Recognizes angles as geometric shapes formed when two rays share a common endpoint |  |
| 4.MD.5a | 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. |  |  |  |  |
| 4.MD.5b | An angle that turns through n one-degree angles is said to have an angle measure of n degrees. |  |  |  |  |
| 4.MD.6 | Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. |  |  | Measures and sketches angles in whole-number degrees |  |
| 4.MD.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.1 | Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. |  |  | Draws and can identify multiple components of two-dimensional figures |  |
| 4.G.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. |  |  | Classifies two-dimensional figures and identifies right triangles |  |
| 4.G.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. |  |  | Identifies and draws lines of symmetry in two-dimensional figures |  |