THIRD GRADE MATHEMATICS

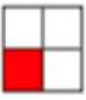| **Priority Standards #1 Represent and Understand Multiplication and Division Within 100** |
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| *Develop an understanding of the meanings of multiplication and division, apply properties of operations as strategies to multiply and divide, and represent and solve multiplication and division problems within 100 (3.OA.1-6). By the end of Grade 3, know from memory all products of two one-digit numbers (3.OA.7.b).* |

0	Not Covered
1	• Identify the factors and product in a multiplication problem. • Identify the dividend, divisor, and quotient in a division problem. • Minimal understanding of the relationship between multiplication and division. • Use properties of multiplication and division without conceptual understanding. • Appropriately represents multiplication and division problems. • Solve multiplication and division word problems with support.
2	• Compute simple 1 digit multiplication problems (1's, 2's, 3's, 5's) • Understand the meaning of each factor and product in a multiplication problem. • Understand the meaning of the dividend, divisor, and quotient in a division problem. • Understand multiplication as equal groups and area of rectangles. • Understand division as objects portioned into equal groups or shares. • Use the relationship between multiplication and division without complete understanding. • Use properties of multiplication and division to solve problems without a justification. • Appropriately and accurately represent multiplication and division problems and use a model to solve. • Use numbers and symbols to represent word problems without connection to the context.
3	• Explain the meaning of each factor and the product in a multiplication problem. • Explain the meaning of the dividend, divisor and quotient in a division problem. • Describe the relationship between multiplication and division and use the relationship to solve problems. • Explain multiplication as equal groups and area of rectangles and division as objections portioned into equal groups or shares. • Reason about and justify the properties of multiplication and use these properties to defend solutions and strategies. • Appropriately represent division and multiplication and uses models to solve problems and explain and defend a solution pathway. • Accurately, efficiently, and flexibly solve multiplication and division problems using models and strategies based on properties of operations. • Fluently multiply two single digit numbers (0's-9's) • Use numbers and symbols to represent word problems and explain how the numbers and symbols relate to the context.

Priority Standard #2 Fractions _Students develop an understanding of fractions as numbers with 2, 3, 4, 6, and 8 as denominators. This includes understanding unit fractions as one part of the whole written with a numerator and denominator (3.NF.1, 3.G.2). Students represent a fraction as a number on a number line (3.NF.2), understand fraction equivalence with visual models and number lines, and compare two fractions with the same numerator or same denominator (3.NF.3)._	
0	Not Covered
1	• Understand unit-sized fractional parts as equal-sized pieces of the same whole. • Understand a unit fraction as one of the equal-sized parts of the whole with a one as the numerator. • Understand the denominator of a given fraction as the fractional name determined by the number of equal parts in the whole. • Read a given fraction (1/2, 2/3 etc.) and name simple fractions when given a model (¼)
2	• Build non-unit fractions from unit fractions (¾ is composed of 3 units the size of ¼) • Recognize the equal parts as unit fractions when the whole between 0 and 1, on a number line has been partitioned into equal parts. • Understand the numerator of a fraction as the number of equal parts being considered. • Understand equivalent fractions as the same quantity with different names. • Understand equivalence as different names for the same point on a number line. • Understand whole numbers as equivalent fractions (3/3 = 1 and 4/1 = 4) • Understand comparisons are only valid when the two fractions refer to the same whole.
3	• Reason about the size of the fractional part in relation to the number of parts in a whole. • Understand that the interval from 0 to 1 or the interval between consecutive whole numbers can represent a whole. • Identify and represent fractions on a number line by marking off equal parts between two whole numbers. • Understand, identify and represent equivalent fractions as the same quantity with different names. • Demonstrate understanding of equivalence as different names for the same point on a number line by modeling and defending thinking. • Represent whole numbers as equivalent fractions (3/3 = 1 and 4/1 = 4) • Use visual models to compare unit fractions by reasoning that as the number of equal parts that comprise a whole increases, the size of the fractional parts decreases (the larger the denominator, the smaller the size of the part, ex. ½ > ⅛) • Use visual models to compare non-unit fractions with the same numerators by reasoning that as the number of equal parts that comprise a whole increases, the size of the fractional parts decreases. The larger the denominator, the smaller the size of the part. (2/4 > 2/6) • Compare fractions with the same denominators by reasoning that as the number of equal parts being considered (numerator) increases, the size of the fraction increases. The greater numerator is greater because it is made of more unit fractions. (A segment from 0 to ¾ is shorter than a segment from 0 to 5/4, because it measures 3 units of ¼ as opposed to 5 units of ¼. Therefore, ¾ < 5/4.)

Priority Standard #3: Problems Involving Measurement
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. (3.MD.1-2). Recognize area as an attribute of two-dimensional regions and relate the concept of area to multiplication and addition (3.MD.5-7). Solve real world and mathematical problems involving perimeter and area (3.MD.8).

0	Not Covered
1	• Solve one-step word problems involving measurement of intervals of time, liquid volumes, and masses of objects with support. • Understand that perimeter is the distance around a figure. • Accurately solve perimeter given the side lengths with support. • Measure the length of an object using a ruler marked with halves and fourths with support.
2	• Accurately solve one-step word problems involving measurement units with intervals of time, mass, and liquid volume. • Find the perimeter given the side lengths. • Understand the difference between area and perimeter. • Can solve the area and perimeter of a shape given the side lengths. • Can accurately measure the length of an object using a ruler marked with halves and fourths.
3	• Accurately solve one-step word problems involving measurement units with intervals of time, mass, and liquid volume and explain and defend solution pathway. • Justify an estimation of a solution to word problems involving measurement. • Solve real-world and mathematical problems involving perimeter. • Find an unknown side length given the perimeter. • Find rectangles with the same perimeter and different area. • Find rectangles with the same area and different perimeters. • Generate and record measurement data by measuring a variety of objects to the half or quarter inch.