Math Power Standards
3rd Grade

Algebraic Relationships			CCSS	
2. Represent and analyze mathematical situations and structures using algebraic symbols	A. Represent mathematical situations	Using all operations, represent a mathematical situation as an expression or number sentence **Using a letter or symbol**	3.OA.3	~~Represent and solve problems involving multiplication and division.~~ Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.1
	B. Describe and use mathematical manipulation	Use the commutative, distributive and associative properties for basic facts of whole numbers	~~3.OA.5~~	~~Understand properties of multiplication and the relationship between multiplication and division. 5. Apply properties of operations as strategies to multiply and divide.2 Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)~~
			3.OA.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
Geometric and Spatial Relationships				
1. Analyze characteristics and properties of two- and three dimensional geometric shapes and develop mathematical arguments about geometric relationships	A. Describe and use geometric relationships	Compare and analyze 2-dimensional shapes by describing their attributes (circle, rectangle, rhombus, trapezoid, triangle)	3.G.1	Reason with shapes and their attributes. 1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
3. Apply transformations and use symmetry to analyze mathematical situations	A. Use transformations on objects	Determine if two objects are congruent through a slide, flip or turn		
	C. Use symmetry	Identify lines of symmetry in polygons		
Number and Operations				

1. Understand numbers, ways of representing numbers, relationships among numbers and number systems	B. Represent and use rational numbers	*Represents halves, thirds and Fourths **Describe the results of subdividing, combining, and reforming shapes. Multiplying and dividing whole numbers as well as the relationship between properties..**	==3.MD.4==	==Represent and interpret data.== ==Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.==
			~~3.G.2~~	~~Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.~~
	C. Compose and decompose numbers	Recognize equivalent representations for the same number and generate them by decomposing and composing numbers including expanded notation	==3.NBT.2==	==Use place value understanding and properties of operations to perform multi-digit arithmetic.== ==Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.==
3. Compute fluently and make reasonable estimates	B. Develop and demonstrate fluency	Use strategies to ~~develop~~ fluency with basic number relationships (9 X 9) of multiplication and division ==Demonstrate==	3.OA.4	~~Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = ▯ ÷ 3, 6 × 6 = ?.~~
			3.OA.6	~~Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.~~
			3.OA.7	~~Multiply and divide within 100.~~ ~~7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations.~~ ==By the end of Grade 3, know from memory all products of two one-digit numbers.==
	C. Compute problems	Apply and describe the strategy used to compute up to 3-digit addition or subtraction problems	3.NBT.2	~~Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.~~
	D. Estimate and justify solutions	Estimate and justify sums and differences of whole numbers		
Measurement				
1. Understand measurable attributes of objects and the units, systems and processes of measurement	C. Tell and use units of time	Tell time to the nearest five minutes	==3.MD.1==	==Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.== ==1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.==

	D. Count and compute money	Determine change from $5.00 and add and subtract money values to $5.00		
2. Apply appropriate techniques, tolls and formulas to determine measurements	C. Apply geometric measurements	Determine the perimeter of polygons **And justify areas of polygons and non-polygonal regions imposed on a rectangular grid**	3.MD.5	Geometric measurement: understand concepts of area and relate area to multiplication and to addition. 5. Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.
			3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
Data and Probability				
1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them	C. Represent and interpret data	Read and interpret information from line plots and graphs (bar, line, pictorial) **Represent one to many and corresponding data using pictures and bar graphs**		?