Domain: Operations and Algebraic Thinking		
Cluster 1		
Kindergarten	**Grade 1**	**Grade 2**
MAFS.K.OA.1.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.	**MAFS.1.OA.1.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	**MAFS.2.OA.1.1** Use addition and subtraction with 100 to solve one and two –step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using drawings and equations with a symbol for the unknown number to represent the problem.
MAFS.K.OA.1.2 Solve addition and subtraction word problems, and add and subtract within 10 by using objects or drawings to represent the problem.	**MAFS.1.OA.1.2** Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	
MAFS.K.OA.1.4 For any number 1-9, find the number that makes 10 when added to the given number by using objects or drawings, and record the answer with a drawing or equation.		
MAFS.K.OA.1.5 Fluently add and subtract within 5.		
MAFS.K.OA.1.a Use addition and subtraction within 10 to solve word problems involving both addends unknown by using objects, drawings, and equations with symbols for the unknown numbers to represent the problem.		**MAFS.2.OA.1.a** Determine the unknown whole number in an equation relating four or more whole numbers. Determine the unknown number that makes the equation true: 15-9 = 6 + 

Domain: Operations and Algebraic Thinking		
Cluster 1		
Grade 3	**Grade 4**	**Grade 5**
MAFS.3.OA.1.1 Interpret products of whole numbers as the total number of objects in 5 groups of 7 objects	**MAFS.4.OA.1.1** Interpret a multiplication equation as a comparison. Interpret 35=5x7 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.	**MAFS.5.OA.1.1** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MAFS.3.OA.1.2 Interpret whole-number quotients of whole numbers: interpret 56 ÷ 98 as the number of objects in each share when 56 objects are partitioned equally into 8 shares or as a number of shares when 56 objects are partitioned into equal shares of 8 objects.	**MAFS.4.OA.1.2** Multiply or divide to solve word problems involving multiplicative comparison by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	**MAFS.5.OA.1.2** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
MAFS.3.OA.1.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings and equations with a symbol for the unknown number to represent the problem.	**MAFS.4.OA.1.3** 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.	
MAFS.3.OA.1.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.		
	MAFS.4.OA.1.a Determine whether an equation is true or false by using comparative relational thinking.	
	MAFS.OA.1.b Determine the unknown whole number in an equation relating four whole numbers using comparative relational thinking.	

Domain: Numbers and Operations in Base Ten		
Cluster 2		
Kindergarten	**Grade 1**	**Grade 2**
		MAFS.2.OA.2.2 Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.
	MAFS.1.OA.2.3 Apply properties of operations as strategies to add and subtract.	
	MAFS.1.OA.2.4 Understand subtraction as an unknown addend problem.	

Domain: Numbers and Operations in Base Ten		
Cluster 2		
Grade 3	**Grade 4**	**Grade 5**
		MAFS.5.OA.2.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.
	MAFS.4.OA.2.4 Investigate factors and multiples. a. Find all factor pairs for a whole number in the range 1-100. b. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number n the range 1-1000 is a multiple of a given one-digit number. c. Determine whether a given whole number in the range 10-100 is prime or composite	
MAFS.3.OA.2.5 Apply properties of operations as strategies to multiply and divide.		
MAFS.3.OA.2.6 Understand division as an unknown factor problem.		

Domain: Numbers and Operations in Base Ten		
Cluster 3		
Kindergarten	**Grade 1**	**Grade 2**
		MAFS.2.OA.3.3 Determine whether a group of objects up to 20 has an odd or even number of members by pairing objects or counting by 2's; write an equation to express an even number as a sum of two addends.
		MAFS.2.OA.3.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equations to express the total as a sum of equal addends.
	MAFS.1.OA.3.5 Relate counting to addition and subtraction.	
	MAFS.1.OA.3.6 Add and subtract with 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; creating equivalent but easier or known sums.	

Domain: Numbers and Operations in Base Ten		
Cluster 3		
Grade 3	Grade 4	Grade 5
	MAFS.4.OA.3.5 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.	
MAFS.3.OA.3.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or strategies. By the end of 3rd grade know from memory all products of two one-digit numbers.		

Domain: Numbers and Operations in Base Ten		
Cluster 4		
Kindergarten	**Grade 1**	**Grade 2**
	MAFS.OA.4.7 Understand the meaning of the equal sign and determine if equations involving addition and subtraction are true or false.	
	MAFS.OA.4.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.	

Domain: Numbers and Operations in Base Ten		
Cluster 4		
Grade 3	Grade 4	Grade 5
MAFS.3.OA.4.8 Solve two step word problems using the four operations. 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.		
MAFS.3.OA.4.9 Identify arithmetic patterns (including patterns in the addition and multiplication tables) and explain them using properties of operations.		