Vertical Alignment Chart L

Big Idea: Represent and Solve Problems Involving Addition and Subtraction

Grade/ Course	LSSM Code	Content Standards
6	**Cluster A**	**Apply and extend previous understandings of arithmetic to algebraic expressions.**
	6.EE.A.2	Write, read, and evaluate expressions in which letters stand for numbers a. Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y. b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms. c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole- number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2. Rigor: Conceptual Understanding, Procedural Skill and Fluency
5	**Cluster B**	**Analyze patterns and relationships.**
	5.OA.B.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. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so. Rigor: Conceptual Understanding, Procedural Skill and Fluency
	Cluster B	**Perform operations with multi-digit whole numbers and with decimals to hundredths.**
	5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; justify the reasoning used with a written explanation. Rigor: Conceptual Understanding, Procedural Skill and Fluency
4	**Cluster A**	**Use the four operations with whole numbers to solve problems.**
	4.OA.A.3	Solve multi-step 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. Example: Twenty-five people are going to the movies. Four people fit in each car. How many cars are needed to get all 25 people to the theater at the same time? Rigor: Conceptual Understanding, Application
	Cluster C	**Generate and analyze patterns.**
	4.OA.C.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. For example, 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. Explain informally why the numbers will continue to alternate in this way. Rigor: Conceptual Understanding, Procedural Skill and Fluency
3	**Cluster D**	**Solve problems involving the four operations, and identify and explain patterns in arithmetic.**
	3.OA.D.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 Rigor: Conceptual Understanding, Application
	3.OA.D.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. Rigor: Conceptual Understanding

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2	**Cluster A**	**Represent and solve problems involving addition and subtraction.**
	2.OA.A.1	Use addition and subtraction within 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, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem Rigor: Application
	Cluster B	**Add and subtract within 20.**
	2.OA.B.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. Rigor: Procedural Skill and Fluency
1	**Cluster A**	**Represent and solve problems involving addition and subtraction.**
	1.OA.A.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 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem) Rigor: Application
	Cluster C	**Add and subtract within 20.**
	1.OA.C.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use mental strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Rigor: Conceptual Understanding, Procedural Skill and Fluency
	Cluster D	**Work with addition and subtraction equations.**
	1.OA.D.8	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = – 3, 6 + 6 = . Rigor: Conceptual Understanding
K	**Cluster C**	**Compare Numbers.**
	K.CC.C.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. Rigor: Conceptual Understanding
	Cluster A	**Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**
	K.OA.A.2	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Rigor: Procedural Skill and Fluency, Application
	K.OA.A.3	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). Rigor: Conceptual Understanding
	K.OA.A.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. Rigor: Conceptual Understanding