

Analysis of *California Mathematics* standards to *Common Core* standards-Grade 1

Strand	CA Math Standard	Domain	Common Core Standard (CCS)	Alignment	Comments in reference to CCS
Strand Number Sense	CA Math Standard				
1.0 Number Sense	1.0 Students understand and use numbers up to 100.	Number and Operations in Base Ten	1.NBT: Extend the counting sequence. (Cluster Statement)	Yes	
	1.1 Count, read, and write whole numbers to 100.	Number and Operations in Base Ten	1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	Yes	
	1.2 Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >).	Number and Operations in Base Ten	1.NBT.3: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	Yes	
	1.3 Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as 4 + 4, 5 + 3, 2 + 2 + 2 + 2, 10 - 2, 11 - 3).	Operations and Algebraic Thinking	1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use 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 know $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).	Yes	
	1.4 Count and group object in ones and tens (e.g., three groups of 10 and 4 equals 34, or $30 + 4$).	Number and Operations in Base Ten	1.NBT.2: Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:	Yes	

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			<ul style="list-style-type: none"> a. 10 can be thought of as a bundle of ten ones-called a “ten”. b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). 		
	1.5 Identify and know the value of coins and show different combinations of coins that equal the same value.			No	<p>2.MD.8: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using dollar signs and cents sign appropriately</p> <p>CCS does not introduce money in first grade. The second grade standard does expect knowledge of value and then computation.</p>
2.0 Number Sense	2.0 Students demonstrate the meaning of addition and subtraction and use these operations to solve problems.	Operations and Algebraic Thinking	1.OA: Represent and solve problems involving addition and subtraction. (Cluster Statement)	Yes	
	2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.	Operations and Algebraic Thinking	1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use 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 know $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$	Partial	2.OA.2: Fluently add and subtract within 20 using mental strategies.* By end of Grade 2, know from memory all sums of two one-digit numbers.

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			by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).		
	2.2 Use the inverse relationship between addition and subtraction to solve problems.	Operations and Algebraic Thinking	1.OA.4: Understand subtraction as an unknown-addend problem.	Yes	
	2.3 Identify one more than, one less than, 10 more than, and 10 less than a given number.	Number and Operations in Base Ten	1.NBT.5: Given a two-digit number, mentally find 10 more or 10 less that the number, without having to count: explain the reasoning used.	Yes	
	2.4 Count by 2s, 5s, and 10s to 100.	Counting and Cardinality Operations and Algebraic Thinking	1.OA.5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	Partial	K.CC.1: Count to 100 by ones and by tens. 2.NBT.2: Count within 1000; by 5s, 10s, and 100s.
	2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).			No	K.OA: (Cluster Statement) Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
	2.6 Solve addition and subtraction problems with one-and two-digit numbers (e.g., $5 + 58 = \underline{\quad}$).	Number and Operations in Base Ten	1.NBT.4: Add within 100, including adding a two-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; related the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	Yes	

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			1.NBT.6: Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; related the strategy to a written method and explain the reasoning used.		
	2.7 Find the sum of three one-digit numbers.	Operations and Algebraic Thinking	1.OA.2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.8: Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.	Yes	
3.0 Number Sense	3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, and hundreds places.			No	CCS does not mention estimation of quantities except in the Mathematical Practice standards. Estimation is then described as “make conjectures about the form and meaning of the solution and detect possible errors by strategically using estimation and other mathematical knowledge.”
	3.1 Make reasonable estimates when comparing larger or smaller numbers.			No	CCS does not mention estimation of quantities except in the Mathematical Practice standards. Estimation is then described as “make conjectures about the form and meaning of the solution and

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Strand Algebra and Function	CA Math Standard				
1.0 Algebra and Functions	1.0 Students use number sentences with operational symbols and expressions to solve problems.		1.OA: Represent and solve problems involving addition and subtraction. (Cluster Statement)	Yes	
	1.1 Write and solve number sentences from problem situations that express relationships involving addition and subtraction.		1.OA.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.*	Yes	*Refers to table with common addition and subtraction situations (e.g., Add to and Take from with result unknown, change unknown, start unknown, etc.).
	1.2 Understand the meaning of the symbols +, -, =.	Operations and Algebraic Thinking	1.OA.7: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.	Yes	
	1.3 Create problem situations that might lead to given number sentences involving addition and subtraction.			No	
Strand Measurement and Geometry	CA Math Standard				
1.0 Measurement and Geometry	1.0 Students use direct comparison and nonstandard units to describe the measurements of objects.	Measurement and Data	1.MD: Measure lengths indirectly and by iterating length units. (Cluster Statement)	Yes	
	1.1 Compare the length, weight, and volume of two or more objects by using direct comparison or a nonstandard unit.	Measurement and Data	1.MD.1: Order three objects by length; compare the lengths of two objects indirectly by using a third object.	Partial	3MD.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).* Add, subtract,

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			1.MD.2: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. <i>Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</i>		multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.* *Excludes compound units cm^3 and finding the geometric volume of a container • Excludes multiplicative comparison problems (problems involving notions of “times as much”; see glossary table dealing with common multiplication and division situations.)
	1.2 Tell time to the nearest half hour and relate time to events (e.g., before/after, shorter/longer).	Measurement and Data	1.MD.3: Tell and write time in hours and half-hours using analog and digital clocks.	Yes	
2.0 Measurement and Geometry	2.0 Students identify common geometric figures, classify them by common attributes, and describe their relative position or their location in space.	Geometry	1.G: Reason with shapes and their attributes. (Cluster Statement).	Yes	
	2.1 Identify, describe, and compare triangles, rectangles, squares, and circles, including the faces of three-dimensional objects.			No	K.G.4: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/”corners”) and other attributes (e.g., having sides of equal length).
	2.2 Classify familiar plane and solid objects by common attributes, such as color, position, shape, size, roundness, or number of corners, and explain which attributes are being used for classification.	Geometry	1.G.1: Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and	Yes	

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			draw shapes to possess defining attributes.		
	2.3 Give and follow directions about location.			No	
	2.4 Arrange and describe objects in space by proximity, position, and direction (e.g., near, far, below, above, up, down, behind, in front of, next to, left or right of).			No	K.G.1: Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as <i>above</i> , <i>below</i> , <i>beside</i> , <i>in front of</i> , <i>behind</i> , and <i>next to</i> .
Strand Statistics, Data Analysis, and Probability	CA Math Standard				
1.0 Statistics, Data Analysis, and Probability	1.0 Students organize, represent, and compare data by category on simple graphs and charts.	Measurement and Data	1.MD: Represent and interpret data (Cluster Statement).	Yes	
	1.1 Sort objects and data by common attributes and describe the categories.			No	K.MD.3: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
	1.2 Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs.	Measurement and Data	1.MD.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	Yes	
2.0 Statistics, Data Analysis, and Probability	2.0 Students sort objects and create and describe patterns by numbers, shapes, sizes, rhythms, or colors.			No	CCS mentions patterns in the Mathematical Practice Standards: “mathematically proficient students look closely to discern a pattern or structure.”

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	2.1 Describe, extend, and explain ways to get to a next element in simple repeating patterns (e.g., rhythmic, numeric, color, and shape).			No	
Strand Mathematical Reasoning	CA Math Standard				
1.0 Mathematical Reasoning	1.0 Students make decisions about how to set up a problem.	Mathematical Practice Standards	1.MP.1: Make sense of problems and persevere in solving them.	Yes	
	1.1 Determine the approach, materials, and strategies to be used.	Mathematical Practice Standards	1.MP.5: Use appropriate tools strategically.	Yes	
	1.2 Use tools, such as manipulatives or sketches, to model problems.	Mathematical Practice Standards	1.MP.4: Model with mathematics. 1.MP.5: Use appropriate tools strategically.	Yes	
2.0 Mathematical Reasoning	Students solve problems and justify their reasoning	Mathematical Practice Standards	1.MP.3: Construct viable arguments and critique the reasoning of others.	Yes	
	2.1 Explain the reasoning used and justify the procedures selected.	Mathematical Practice Standards	1.MP.4: Model with mathematics.	Yes	
	2.2 Make precise calculations and check the validity of the results from the context of the problem.	Mathematical Practice Standards	1.MP.6: Attend to precision.	Yes	
3.0 Mathematical Reasoning	3.0 Students note connections between one problem and another.	Mathematical Practice Standards	1.MP.7: Look for and make use of structure. 1.MP.8: Look for and express regularity in repeated reasoning.	Yes	

Grade 1 Common Core Standards not found in Grade 1 CA Mathematics Standards

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Operations and Algebraic Thinking	1.OA.3: Apply properties of operations as strategies to add and subtract (*Students need not use formal terms for these properties). Examples: If $8 + 3 = 11$ is known, $3 + 8 = 11$ is also known. (Commutative property of addition). To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$ (Associative property of addition).	Yes Grade Two AF1.1
Geometry	1.G.2: Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape (*Students do not need to learn formal names).	Yes Grade Two MG2.2
Geometry	1.G.3: Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal share creates smaller shares.	Yes Grade Two NS4.1, NS4.2, NS4.3

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2.0 Number Sense	2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).	K.OA: (Cluster Statement) Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
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1.0 Statistics, Data Analysis, and Probability	1.1 Sort objects and data by common attributes and describe the categories.	Yes. K.MD.3: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
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2.0 Statistics, Data Analysis, and Probability	2.1 Describe, extend, and explain ways to get to a next element in simple repeating patterns (e.g., rhythmic, numeric, color, and shape).	No.