California Common Core State Standards Comparison – THIRD GRADE

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics.
5. Use appropriate tools strategically
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Current CA Math Content Standards with PCS Power Standards in bold	# of items	CST Released Items	California Common Core State Standards – Mathematics new standards are highlighted / shaded	Notes
NUMBER SENSE:	**32** 49%			
NS 1.0 Students understand the place value of whole numbers.			**Number and Operations in Base Ten 3.NBT** **- Use place value understanding and properties of operations to perform multi-digit arithmetic.[4]**	
NS 1.1 Count, read, and write numbers to 10,000.	1/2	1-2		4.NBT.2
NS 1.2 Compare and order whole numbers to 10,000.	1	3		4.NBT.2
NS 1.3 Identify the place value for each digit in numbers to 10,000.	3	4-8	3.NBT.1.1 Understand that the four digits of a four-digit number represent amounts of thousands, hundreds, tens, and ones; e.g. 3,706 = 3000 + 700 + 6 = 3 thousands, 7 hundreds, 0 tens, and 6 ones.	4.NBT.1
NS 1.4 Round off numbers to 10,000 to the nearest ten, hundred, and thousand.	1/2	9	3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.	4.NBT.3
NS 1.5 Use expanded notation to represent numbers (3,206= 3,000+200+6).	3	10-12	3.NBT.1.1 Understand that the four digits of a four-digit number represent amounts of thousands, hundreds, tens, and ones; e.g. 3,706 = 3000 + 700 + 6 = 3 thousands, 7 hundreds, 0 tens, and 6 ones.	

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NS 2.0 Students calculate and solve problems involving addition, subtraction, multiplication, and division.			**Operations and Algebraic Thinking 3.OA** **-Represent and solve problems involving multiplication and division.** **-Understand properties of multiplication and the relationship between multiplication and division.** **-Multiply and divide within 100.** **-Solve problems involving the four operations, and identify and explain patterns in arithmetic.** **Number and Operations in Base Ten 3.NBT** **-Use place value understanding and properties of operations to perform multi-digit arithmetic.** **(Cluster Statements)**	
NS 2.1 Find the sum or difference of two whole numbers between 0 and 10,000.	4	25-30	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.	
NS 2.2 Memorize to automaticity the multiplication table for numbers between 1 and 10.	NA		3.OA.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. 3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	
NS 2.3 Use the inverse relationship of multiplication and division to compute and check results.	3	31-33	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.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. 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.*	

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NS 2.4 Solve simple problems involving multiplication of multi-digit numbers by one-digit numbers (3,671 x 3=)	5	34-40	3.OA.1. Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each, ***or 7 groups of 5 objects each.*** *For example, describe a context in which a total number of objects can be expressed as* 5 × 7. 3.OA.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.	Aligned with NS 2.2 and NS 2.3
NS 2.5 Solve division problems in which a multi-digit number is evenly divided by a one digit number (135/5)	1	41-42	3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 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 each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56÷8.* 3.OA.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.	Aligned with NS 2.2 and NS 2.3
NS 2.6 Understand the special properties of 0 and 1 in multiplication and division	1	43-44		
NS 2.7 Determine the unit cost when given the total cost and number of units.	1	45		
NS 2.8 Solve problems which combine two or more of the skills above.	1	46=47	3.OA.3. 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. *See Glossary Table 2.* 3.OA.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.[3]	Aligned with AF 1.1
NS 3.0 Students understand the relationships between whole numbers, simple fractions, and decimals.			**Number and Operations—Fractions 3.NF** ***(Limited to fractions with denominators 2,3,4,6, and 8)*** **-Develop understanding of fractions as numbers.** **(Cluster Statement)**	

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NS 3.1 Compare fractions represented by drawings or concrete materials to show equivalency, and to add and subtract simple fractions in context.	1	13	3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize that equivalencies are only valid when the two fractions refer to the same whole. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. e. Know and understand that 25 cents is a 1/4 of a dollar, 50 cents is 1/2 of a dollar, and 75 cents is 3/4 of a dollar.	
NS 3.2 Add and subtract simple fractions (e.g., determine that 1/8 + 3/8 is the same as ½).	2	14-17	3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line. b. Represent a fraction *a*/*b* on a number line diagram by marking off *a* lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.	
NS 3.3 Solve problems involving addition, subtraction, multiplication, and division of money amounts in decimal notation and multiply and divide money amounts in decimal notation using whole number multipliers and divisors.	4	18-23		5.NBT.7

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NS 3.4 Know and understand that fractions and decimals are two different representations of the same concept. (50 cents is ½ of a dollar, 75 cents is ¾ of a dollar)	1	24	3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize that equivalencies are only valid when the two fractions refer to the same whole. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. e. Know and understand that 25 cents is a 1/4 of a dollar, 50 cents is 1/2 of a dollar, and 75 cents is 3/4 of a dollar.	Aligned with NS 3.1 4.NF.6
ALGEBRA AND FUNCTIONS	**12** 18%			
AF 1.0 Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple numbers.			**Operations and Algebraic Thinking 3.OA** **-Understand properties of multiplication and the relationship between multiplication and division.** **-Solve problems involving the four operations, and identify and explain patterns in arithmetic.** **(Cluster Statements)**	
AF 1.1 Represent relationships of quantities in the form of mathematical expressions, equations, or inequalities.	4	48-53	3.OA.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. *[This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).]*	

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AF 1.2 Solve problems involving number equations or inequalities	1	54-44	3.OA.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. *[This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).]*	Aligned with AF 1.1
AF 1.3 Select appropriate operational and relational symbols to make an expression true. (What operation symbol goes in the blank?)	1	56		
AF 1.4 Express simple unit conversions in symbolic form (e.g., _____inches = _____ feet x 12)	1	57-58		5.MD.1
AF 1.5 Recognize and use the commutative and associative properties of multiplication (if 5x7, then what is 7x 5? If 7x5x3, then what is 7x 3 x 5?)	1	59	3.OA.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.)*	
AF 2.0 Students represent simple functional relationships.			**Operations and Algebraic Thinking 3.OA** **Represent and solve problems involving multiplication and division.**	
AF 2.1 Solve simple problems involving a functional relationship between two quantities (find the total cost of multiple items given the per unit cost).	3	60-64		

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AF 2.2 Extend and recognize linear patterns by its rules (the number of legs on a given number of horses can be calculated by counting to 4's or by multiplying the number of horses by 4).	1	65		4.OA.5
MEASURMENT AND GEOMETRY	**16** 25%			
MG 1.0 Students choose and use appropriate units and measurement tools to quantify the properties of objects.			**Measurement and Data 3.MD** **-Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.** **-Geometric measurement: understand concepts of area and relate area to multiplication and to addition.** **-Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**	
MG 1.1 Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid volume, and weight mass of given objects.	1	66-67	3.MD.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), ***and English Units (oz, lb.)***, and liters (l).6 Add, subtract, 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 multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).]*	
MG 1.2 Estimate or determine the areas and volume of solid figures by covering them with squares or by counting the number of cubes that would fill them	3	68-70	3.MD.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.	
MG 1.3 Find the perimeter of a polygon with integer sides.	3	71-74	3.MD.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	

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MG 1.4 Carry out simple unit conversions within a system of measurement (centimeter and meters, hours and minutes.)	1	75-76		5.MD.1
MG 2.0 Students describe and compare the attributes of plan and solid geometric figures and use their understanding to show relationships and solve problems.			**Geometry 3.G** **-Reason with shapes and their attributes.** **(Cluster Statement)**	
MG 2.1 Identify, describe, and classify polygons (including pentagons, hexagons, and octagons).	2	77-80		2.G.1
MG 2.2 Identify attributes of triangles (two equal sides for the isosceles triangle, three equal sides for the equilateral triangle, right angle for the square.	2	81-82	3.G.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.	
MG 2.3 Identify attributes of quadrilaterals (parallel sides for the parallelogram, right angles for the rectangle, equal sides and right angles for the square.)	2	83-85		
MG 2.4 Identify right angles in geometric figures or in appropriate objects and determine whether other angles are greater or less than a right angle.	2/3	86-87		4.MD.5
MG 2.5 Identify, describe, and classify common three-dimensional geometric objects (cube, rectangular prism, sphere, prism, pyramid, cone, cylinder)	2/3	88		2.G.1
MG 2.6 Identify the common solid objects that are the component parts needed to make a more complex solid object.	2/3	89		1.G.2

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STATISTICS DATA ANALYSIS AND	**5** 8%			
SDAP 1.0 Students conduct simple probability experiments by determining the number of possible outcomes, and make				7.SP
SDAP 1.1 Identify whether common events are certain, likely, unlikely or improbable.	1	90-91		7SP.5
SDAP 1.2 Record the possible outcomes for a simple event (tossing a coin) and systematically keep track of the outcomes when the	2	92094		7.SP.6
SDAP 1.3 Summarize and display the results of probability experiments in a clear and organized way (e.g.,use a bar	2	95-96		7.SP.6 7.SP.7
SDAP 1.4 Use the results of probability experiments to predict future events (use a line plot to predict the temperature forecast for	NA			7.SP.6 7.SP.7

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Grade 3 Common Core Standards not found in Grade 3 CA Mathematics Standards

Domain	Common Core standard	Found in CA Math standards
Operations and Algebraic	3.OA 9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.	Partial Grade 2 SDAP 2.1
Measurement and Data	3.MD 1: Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving additions and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	No Grade 2 has time to the quarter hour and intervals of one hour. MG:
Measurement and Data	3.MD 4: 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.	No
Measurement and Data	3.MD 6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units.	Partial Grade 4 MG 1.1
Measurement and Data	3.MD 7: Relate area to the operations of multiplication and addition. A. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. B. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. C. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a x b and a x c. Use area models to represent the distributive property in mathematical reasoning. D. Recognize area as an additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	Partial Grade 5 MG 1.1
Geometry	3.G 2: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	No