Mathematics Blueprint

Level I: Grades 2-11

(Blueprint adopted by the State Board of Education 3/06)

		CALIFORNIA CONTI	ENT STANDARDS		
Number Sense:		Number of Tasks:	3		
114111201 0011001		Percentage of Test:			
Kind	ergarten	1 oroontago or rooti	0.1070		
1.0*	Students understar		n numbers and quantities (i.e., that a set of ferent situations regardless of its position or		
1.2	Count, recognize, re Indicate quantity of the country of the coun	of "1". s of more than 1.	number of objects (up to 30).		
Grad	e 1				
1.0	Students understar	nd and use numbers up to	100:		
1.1*	Count, read, and writ ✓ Count whole num	te whole numbers to 100. bers to 3.			
2.0	Students demonstrate the meaning of addition and subtraction and use these operations to solve problems:				
2.3*	✓ Identify one more✓ Identify more and	than.	nan, and 10 less than a given number.		
Alge	bra and Functions:		1		
		Percentage of Test:	12.5%		
Kind	ergarten				
1.0	Students sort and o	classify objects:			
1.1*	Identify, sort, and cla	ssify objects by attribute and balls are green, those are r	d identify objects that do not belong to a particular ed).		
	Out terms by single attribute.				

^{*} Key standard as identified in the Mathematics Framework for California Public Schools.

✓ Classify objects by category (i.e., food, clothing, animals).

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Level I: Grades 2-11

Measurement and Geometry:		Number of Tasks:	3		
		Percentage of Test:	37.5%		
Kind	Kindergarten				
1.0*	Students understand the concept objects have properties, such as lemade by referring to those properties.	ength, weight, and capacity, and	•		
1.2	Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar). ✓ Identify "day and night" from a set of pictures. ✓ Match activity to time of day. ✓ Follow a picture/word sequence schedule/calendar. ✓ Using pictures, identify activity which comes next on a given schedule system. ✓ Identify a clock.				
2.0	Students identify common objects	in their environment and descri	be the geometric features:		
2.1	Identify and describe common objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone). ✓ Identify and describe common objects (e.g., triangle, square, rectangle, cube, sphere, cone).				
2.2	Compare familiar plane and solid objects by common attributes (e.g., position, shape, roundness, number of corners).				
04.41	✓ Compare familiar plane and solid		oigger).		
Stati	Statistics, Data Analysis, and Probability: Number of Tasks: 1				
Grad	e 1	Percentage of Test:	12.5%		
1.0	Students organize, represent, and	compare data by category on si	mple graphs and charts:		
1.2	Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs. ✓ Represent and compare concrete objects by placing on a chart and answering "Which is more?"				
Tota		ber of Tasks: 8			

^{*} Key standard as identified in the Mathematics Framework for California Public Schools.

Mathematics Blueprint

Level II: Grades 2-3

California Content Standards				
Num	ber Sense:	Number of Tasks:	4	
		Percentage of Test:	50%	
Grac	le 2			
1.0	Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:			
1.1*			nd identify the place value for each digit.	
	✓ Count and identify numbers from one to ten.			
1.3*		whole numbers to 1,000 by u	sing the symbols <, =, >.	
	✓ Compare two se	ts of objects to determine which	ch is equal by using the equal symbol.	
2.0	Students estimate three-digit numbe		ems involving addition and subtraction of two- and	
2.2*	Find the sum or dif	erence of two whole numbers		
			single digit numbers and sums up to five).	
3.0			volving multiplication and division:	
3.3*	Know the multiplica ✓ Count by 2's to t		s (to "times 10") and commit them to memory.	
4.0	Students understand that fractions and decimals may refer to parts of a set and parts of a whole:			
4.1*	Recognize, name,	and compare unit fractions from	m 1/12 to 1/2.	
	✓ Recognize 1/2 a	nd one whole using pictures a	nd overlays of familiar objects.	
4.3*	Know that when all and to one.	fractional parts are included,	such as four-fourths, the result is equal to the whole	
		all fractional parts are include	d, limited to two halves, the result is equal to the whole	
5.0	Students model a money:	nd solve problems by repres	senting, adding, and subtracting amounts of	
5.1*		ng combinations of coins and uarter, and dollar bill.	bills.	
5.2*	Know and use the	decimal notation and the dolla	r and cent symbols for money.	
Grac	✓ Recognize the dollar symbol. Grade 3			
			un una ha man	
1.0		and the place value of whole		
1.1		rite whole numbers to 10,000. fy numbers from 1 to 15 and v		
1.2		whole numbers to 10,000.	white mambers main it to b.	
1.4	✓ Order whole nur			
* K			amework for California Public Schools.	

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Mathematics Blueprint

Level II: Grades 2-3

 2.1* Find the sum or difference of two whole numbers between 0 and 10,000. ✓ Find the sum of two whole numbers (limited to single digits and sums up to 10). 3.0 Students will understand the relationship between whole numbers, simple fractions, and decimals: 3.1 Compare fractions represented by drawings or concrete materials to show equivalency and to add and subtract simple fractions in context (e.g., 1/2 of a pizza is the same amount as 2/4 of another pizza that is the same size; show that 3/8 is larger than 1/4). ✓ Compare halves and one whole. ✓ Recognize 1/4. 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 by using whole number multipliers and divisors. ✓ Solve simple one-step problems involving addition of money amounts using either pennies or dollars. Algebra and Functions: Number of Tasks: 1 Percentage of Test: 12.5% Grade 3 1.0 Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple number relationships: Represent relationships of quantities in the form of mathematical expressions, equations and inequalities. ✓ Relate simple problem situations to number sentences involving addition with sums up to 5. 1.3 Select appropriate operational and relational symbols to make an expression true (e.g., if 4 _ 3 = 12, what operational symbol goes in the blank?). ✓ Select appropriate operational sign to make a number sentence true, using numbers up to 5. Students represent simple functional relationships: Extend and recognize a inear pattern by its rules (e.g., the number of horses by 4). ✓ Extend and recognize an ABC pattern by a single attribute. Measurement and Geometry: Number of Tasks: 2 Percentage of Test: 25% Grade 2 Measure the length of an object to the nearest inch and/or centimeter. ✓ Meas	2.0	Students calculate and solve problems involving addition, subtraction, multiplication, and division:		
3.0 Students will understand the relationship between whole numbers, simple fractions, and decimals: 3.1 Compare fractions represented by drawings or concrete materials to show equivalency and to add and subtract simple fractions in context (e.g., 1/2 of a pizza is the same amount as 2/4 of another pizza that is the same size; show that 3/8 is larger than 1/4). V. Compare halves and one whole. Recognize 1/4. 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 by using whole number multipliers and divisors. Solve simple one-step problems involving addition of money amounts using either pennies or dollars. Algebra and Functions: Number of Tasks: 1 Percentage of Test: 12.5% Grade 3 1.0 Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple number relationships: 1.1* Represent relationships of quantities in the form of mathematical expressions, equations and inequalities. Relate simple problem situations to number sentences involving addition with sums up to 5. 1.3 Select appropriate operational and relational symbols to make an expression true (e.g., if 4 _ 3 = 12, what operational symbol goes in the blank?). Y. Select appropriate operational sign to make a number sentence true, using numbers up to 5. 2.0 Students represent simple functional relationships: Extend and recognize a linear pattern by its rules (e.g., the number of legs on a given number of horses may be calculated by counting by 4's or by multiplying the number of horses by 4). Y. Extend and recognize an AB pattern by a single attribute. Extend and recognize an AB pattern by a single attribute. Measurement and Geometry: Number of Tasks: 2 Percentage of Test: 25% Grade 2 1.0 Students understand that measurement is accomplished by identifying a unit of measure, iterating (repeating) that unit, and comparing it to the item to be measured.	2.1*	Find the sum or difference of two whole numbers between 0 and 10,000.		
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	1.0			
• • • • • • • • • • • • • • • • • • • •	1.3*			

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Mathematics Blueprint

Level II: Grades 2-3

(Blueprint adopted by the State Board of Education 3/06)

Tell time to the nearest quarter hour and know relationships of time (e.g., minutes in an hour, days in

a month, and weeks in a year). ✓ Know relationships of time (night and day). Students identify and describe the attributes of common figures in the plane and of common 2.0 objects in space: 2.1* Describe and classify plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) according to the number and shape of faces, edges, and vertices. ✓ Identify common geometric objects (e.g., circle, triangle, and square). Grade 3 Students choose and use the appropriate units and measurement tools to quantify the 1.0 properties of objects: Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid 1.1 volume, and weight/mass of given objects. ✓ Choose the appropriate tool to measure length and weight. Students describe and compare the attributes of plane and solid geometric figures and use 2.0 their understanding to show relationships and solve problems: Identify, describe, and classify polygons (including pentagons, hexagons, and octagons). 2.1* ✓ Identify an attribute of a square and triangle (sides only). Identify, describe, and classify common three-dimensional geometric objects (e.g., cube, rectangular 2.5 solid, sphere, prism, pyramid, cone, and cylinder). ✓ Identify common three-dimensional objects (cube and cone). Statistics, Data Analysis, and Probability: Number of Tasks: Percentage of Test: 12.5% Grade 2 1.0 Students collect numerical data and record, organize, display and interpret the data on bar graphs and other representations: 1.4 Ask and answer simple questions related to data representations. ✓ Answer simple questions related to data representations.

Grade 3

1.4

- 1.0 Students conduct simple probability experiments by determining the number of possible outcomes and make simple predictions:
- 1.3* Summarize and display the results of probability experiments in a clear and organized way (e.g., use a bar graph or line plot).
 - ✓ Answer simple questions based on information from a chart, bar graph, or picture graph.

Total Level II Tasks: Total Number of Tasks: 8
Percentage of Test 100%

* Key standard as identified in the Mathematics Framework for California Public Schools.

Mathematics Blueprint

Level III: Grades 4-5

California Content Standards			
Number Sense:		Number of Tasks:	3
		Percentage of Test:	37.5%
Grad			
1.0			e numbers and decimals to two decimal places
			to simple fractions. Students use the concepts
	of negative number		
1.1*	Read and write whole numbers in the millions.		
	✓ Write whole num		
		vhole numbers to 20.	1 1 45
4.04		and tens place value of a wh	
1.2*		whole numbers and decimal	s to two decimal places.
	✓ Order whole num		um hada
1.7		numbers using the > and = sy	urts of a figure; represent a given fraction by using
1.7		e a fraction to a simple decim	
			of parts of a figure (1/2 and 1/4).
2.0			
2.0	Students extend their use and understanding of whole numbers to the addition and subtraction of simple decimals:		
2.1			whole numbers and positive decimals to two places.
		or, determine the sum of who	
3.0			subtraction, multiplication and division of whole
		rstand the relationships ar	
3.1*			to use, standard algorithms for the addition and
	subtraction of multi-	digit numbers.	•
	✓ Using a set of number	mbers 1-5, find the difference	e of two whole numbers.
Grad			
1.0			mall numbers, positive integers, decimals, and
			ween decimals, fractions, and percents. They
		ative magnitudes of numbe	
1.5*	-	nt on a number line decimals	s, fractions, mixed numbers, and positive and
	negative integers.		
		up to 50 on a number line.	
2.0			plems involving addition, subtraction, and simple
0.4 #	•	division of fractions and de	
2.1*			add with negative integers; subtract positive
		ve integers; and verify the re	
* 17 -		ers with sums up to 50 and s	ubtract single digit numbers. amework for California Public Schools

^{*} Key standard as identified in the *Mathematics Framework for California Public Schools*.

Mathematics Blueprint

Level III: Grades 4-5

(Blueprint adopted by the State Board of Education 3/06)

- 2.3* Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.
 - ✓ Solve simple problems with sums up to 20, including ones arising in concrete situations, involving the addition and subtraction of whole numbers.

Algebra and Functions: Number of Tasks: 1

Percentage of Test: 12.5%

Grade 4

- 1.0 Students use and interpret variables, mathematical symbols, and properties to write and simplify expressions and sentences:
- 1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions and equations (e.g., demonstrate an understanding and the use of the concept of a variable).
 - ✓ Use a box to stand for a single digit number in simple equations where the sum is up to 5.

Grade 5

- 1.0 Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results:
- 1.1 Use information taken from a graph or equation to answer questions about a problem situation.
 - ✓ Use information taken from a graph to answer simple questions.

Measurement and Geometry: Number of Tasks: 2
Percentage of Test: 25%

Grade 4

- 3.0 Students demonstrate an understanding of plane and solid geometric objects and use this knowledge to show relationships and solve problems:
- 3.1 Identify lines that are parallel and perpendicular.
 - ✓ Identify lines that are parallel.
- 3.2 Identify the radius and diameter of a circle.
 - ✓ Identify the diameter of a circle.
- 3.3 Identify congruent figures.
 - ✓ Identify congruent shapes.
- 3.6 Visualize, describe, and make models of geometric solids (e.g., prisms, pyramids) in terms of the number and shape of faces, edges, and vertices; interpret two-dimensional representations of three-dimensional objects; and draw patterns (of faces) for a solid that, when cut and folded, will make a model of the solid.
 - ✓ Identify a face, an edge, or a vertex of a cube.

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Mathematics Blueprint

Level III: Grades 4-5

Grade 5			
1.0	Students understand and compute the volumes and areas of simple objects:		
1.4	Differentiate between and use appropriate units of measures for, two- and three-dimensional objects (i.e., find perimeter, area, volume).		
	✓ Choose the appropriate tool to measure the liquid volume and weight/mass of a given object.		
2.0	Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures:		
2.1*	Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software). ✓ Identify common geometric shapes (rectangles, diamonds, octagons, and stars).		
Statis	stics, Data Analysis, and Probability: Number of Tasks: 2		
	Percentage of Test: 25%		
Grade	e 4		
1.0	Students organize, represent, and interpret numerical and categorical data and clearly communicate their findings:		
1.1	Formulate survey questions; systematically collect and represent data on a number line; and		
	coordinate graphs, tables, and charts.		
	✓ Represent data in a graph, table, or chart.		
1.2	Identify the mode(s) for sets of categorical data and the mode(s), median, and any apparent outliers		
	for numerical data sets.		
	✓ Identify the mode from a graph or representation.		
1.3	Interpret one- and two-variable data graphs to answer questions about a situation.		
0	✓ Answer a simple question related to a graph.		
Grade			
1.0	Students display, analyze, compare, and interpret different data sets, including data sets of different sizes:		
1.1	Know the concepts of mean, median, and mode; compute and compare simple examples to show		
	that they may differ.		
1.4*	✓ Find the median of a sequenced data set containing 5 data points.		
1.4	Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.		
	✓ Identify a point up to five on a vertical number line.		
	✓ Identify a point up to five on a horizontal number line.		
Total Level III Tasks: Total Number of Tasks: 8			
	Percentage of Test: 100%		

^{*} Key standard as identified in the Mathematics Framework for California Public Schools.

Mathematics Blueprint

(Blueprint adopted by the State Board of Education 3/06)

Preface to CAPA Mathematics Levels IV and V

The grade-level mathematics standards are designed at the lower grades to provide a foundation for concepts introduced at higher grades. The grade-level standards for grades six and seven, for example, cover rational numbers, formulas, linear equations, ratios, and decimals. These standards provide the basis for concepts covered in the discipline-specific math courses that begin with algebra in grade eight.

The CAPA blueprints provide standards appropriate for students with significant cognitive disabilities. The standards in the mathematics blueprints for CAPA are not necessarily arranged so that the lower grades provide a foundation for the higher grades. The blueprints for CAPA Level II (grades two and three) and Level III (grades four and five), for example, consist of selected mathematics standards from grades two through five. Because they contain specifically selected standards, the CAPA Level II and Level III blueprints do not provide a complete foundation for mathematics assessed at higher grades. To ensure the full range of standards coverage, the blueprints for CAPA Level IV (grades six through eight) and Level V (grades nine through eleven) include standards from lower grades. The blueprint for CAPA Level IV (grades six through eight), for example, includes standards from grades three and four as well as grade six, and the blueprint for CAPA Level V (grades nine through eleven) includes standards from grades two through four as well as grade seven.

Care has been taken to ensure that, as the blueprints progress from the lower to the higher CAPA levels, they represent growth in knowledge and skills required and an increase in cognitive complexity.

Mathematics Blueprint

Level IV: Grades 6-8

California Content Standards				
Number Sense: Number of Tasks: 5			5	
		Percentage of Test:	62.5%	
Grad	e 3			
1.0	Students understand	d the place value of whole	e numbers:	
1.4		10,000 to the nearest ten,	hundred, and thousand.	
	✓ Round off prices to	the nearest dollar.		
Grad				
3.0			subtraction, multiplication, and division of whole	
0.44		stand the relationships ar		
3.1*			to use, standard algorithms for the addition and	
	subtraction of multi-di		th augus up to 75	
Grad		solve addition problems wi	in sums up to 75.	
Grad				
1.0*			gative fractions, decimals, and mixed numbers.	
1.1*			ratios, proportions, and percentages: ns, decimals, and mixed numbers and place them on	
1.1	a number line.	usitive and negative fraction	ns, decimals, and mixed numbers and place them on	
	✓ Order and compar	e numbers up to 75		
2.0*			ring addition, subtraction, multiplication, and	
	division:		mig addition, cabilitation, maniphotation, and	
2.1	Solve problems involv	ring addition, subtraction, m	nultiplication, and division of positive fractions and	
	explain why a particular operation was used for a given situation.			
			tion problems with sums up to 75.	
2.2				
	(e.g., $5/8$ divided by $15/16 = 5/8 \times 16/15 = 2/3$).			
0.04		tion to explain multiplication		
2.3*			vision problems, including those arising in concrete	
			s and combinations of these operations.	
Algol	 ✓ Using a calculator, solve real-life addition and subtraction problems with sums up to 30. Algebra and Functions: Number of Tasks: 2 			
Aigei	ora and Functions.	Number of Tasks: Percentage of Test:	25%	
Grad	- C	i ercentage of rest.	23 /0	
1.0			nces as algebraic expressions and equations;	
	their results:	aic expressions, solve si	mple linear equations, and graph and interpret	
1.1*		ton linear equations in one	voriable	
1.1		tep linear equations in one ear equations in one variable		
2.0			ਰ. I rules to solve problems involving rates and	
2.0	proportions:	u use lavies, grapiis, aliu	Trailes to solve problems involving rates and	
2.1		easurement to another (e.c.	J., from feet to miles, from centimeters to inches).	
'		` •	e.g., foot to inches, feet to yard).	
<u> </u>			() () () () () () () () () ()	

^{*} Key standard as identified in the Mathematics Framework for California Public Schools.

Mathematics Blueprint Level IV: Grades 6-8

(Blueprint adopted by the State Board of Education 3/06)

Measurement and Geometry: Number of Tasks: 1 Percentage of Test: 12.5% Grade 3 Students choose and use the appropriate units and measurement tools to quantify the 1.0 properties of objects: 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. ✓ Choose the appropriate tool to measure volume. Number of Tasks: 0 Statistics, Data Analysis, and Probability: Percentage of Test: 0% Total Level IV Tasks: **Total Number of Tasks: 8** Percentage of Test: 100%

^{*} Key standard as identified in the Mathematics Framework for California Public Schools.

Mathematics Blueprint

Level V: Grades 9-12

California Content Standards				
Number Sense:		Number of Tasks:	7	
		Percentage of Test:	87.5%	
Grad	e 2			
1.0	Students understan numbers up to 1,00		n numbers, quantities, and place value in whole	
1.3*		whole numbers to 1,000 by re numbers up to 100.	using the symbols <, =, >.	
4.0			nals may refer to parts of a set and parts of a	
4.3*	Know that when all fr and to one.	actional parts are included,	such as four-fourths, the result is equal to the whole	
			actional parts are included, the result is equal to the	
5.0	Students model and solve problems by representing, adding, and subtracting amounts of money:			
5.1*		combinations of coins and sing combinations of coins a	bills. and bills, rounded to the nearest dollar.	
Grad			,	
2.0	Students calculate a division:	and solve problems invol	ving addition, subtraction, multiplication, and	
2.4*	Solve simple problems involving multiplication of multi-digit numbers by one-digit numbers. (3,671 x 3 =).			
		lems involving the multiplica	ation of a one-digit number by a one-digit number.	
3.0	Students will understand the relationship between whole number, simple fractions, and decimals:			
3.2*	Add and subtract simple fractions (e.g., determine that 1/8 + 3/8 is the same as 1/2).			
		jects, add unit fractions with	n like denominators (i.e., 1/2, 1/4).	
Grad				
3.0		olems involving addition, s stand the relationships a	subtraction, multiplication and division of whole mong the operations:	
3.1*			to use, standard algorithms for the addition and	
	subtraction of multi-d			
		, solve addition problems w	ith sums up to 100.	
	Grade 7			
1.0	Students know the of forms:	properties of, and compu	te with, rational numbers expressed in a variety	
1.2*	Add, subtract, multipl	y, and divide rational numb	ers (integers, fractions, and terminating decimals)	
		onal numbers to whole-num		
		whole numbers with sums u	•	
	✓ Multiply single-dig	t numbers using a calculate	or.	

^{*} Key standard as identified in the Mathematics Framework for California Public Schools

Mathematics Blueprint Level V: Grades 9-12

(Blueprint adopted by the State Board of Education 3/06)

Algebra and Functions: Number of Tasks: 0 Percentage of Test: 0% Number of Tasks: 1 **Measurement and Geometry:** Percentage of Test: 12.5% Grade 3 Students choose and use the appropriate units and measurement tools to quantify the 1.0 properties of objects: Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid 1.1 volume, and weight/mass of given objects. ✓ Measure the liquid volume of a given quantity (i.e., 1/4 cup, 1/2 cup, and 1 cup). Statistics, Data Analysis, and Probability: Number of Tasks: 0 Percentage of Test: 0% **Total Level V Tasks: Total Number of Tasks: 8** Percentage of Test: 100%

^{*} Key standard as identified in the Mathematics Framework for California Public Schools.