CALIFORNIA STANDARDS TEST
GRADE 4 MATHEMATICS
(Blueprint adopted by the California State Board of Education 10/02)

CALIFORNIA CONTENT STANDARDS: GRADE 4	# of Items	%
Number Sense	31	48%
Algebra and Functions	18	28%
Measurement and Geometry	12	18%
Statistics, Data Analysis, and Probability	4	6%
Mathematical Reasoning	Embedded	0%
TOTAL	65	100%

CALIFORNIA CONTENT STANDARDS GRADE 4: By the end of grade four, students understand large numbers and addition, subtraction, multiplication, and division of whole numbers. They describe and compare simple fractions and decimals. They understand the properties of, and the relationships between, plane geometric figures. They collect, represent, and analyze data to answer questions.	**# of Items**
AF 1.2* Interpret and evaluate mathematical expressions that now use parentheses.	**5**
NS 1.1* Read and write whole numbers in the millions.	**3**
NS 1.8* Use concepts of negative numbers (e.g., on a number line, in counting, in temperature, in "owing").	**3**
NS 1.9* Identify on a number line the relative position of positive fractions, positive mixed numbers, and positive decimals to two decimal places.	**3**
NS 3.1* Demonstrate an understanding of, and the ability to use, standard algorithms for the addition and subtraction of multidigit numbers.	**3**
NS 3.2* Demonstrate an understanding of, and the ability to use, standard algorithms for multiplying a multidigit number by a two-digit number and for dividing a multidigit number by a one-digit number; use relationships between them to simplify computations and to check results.	**3**
NS 3.3* Solve problems involving multiplication of multidigit numbers by two-digit numbers.	**3**
NS 3.4* Solve problems involving division of multidigit numbers by one-digit numbers.	**3**

* Key standards (*Mathematics Framework for California Public Schools*, chapter 3) comprise a minimum of 70% of the test

** Fractional values indicate rotated standards (e.g., 1/2 = rotated every two years; 1/3 = rotated every three years)

*** Not assessable in a multiple-choice format

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AF 1.3* Use parentheses to indicate which operation to perform first when writing expressions containing more than two terms and different operations.	**3**
AF 2.1* Know and understand that equals added to equals are equal.	**3**
AF 2.2* Know and understand that equals multiplied by equals are equal.	**3**
NS 1.2* Order and compare whole numbers and decimals to two decimal places.	**2**
NS 1.3* Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.	**2**
NS 4.2* Know that numbers such as 2, 3, 5, 7, and 11 do not have any factors except 1 and themselves and that such numbers are called prime numbers.	**2**
AF 1.5* Understand that an equation such as $y = 3x + 5$ is a prescription for determining a second number when a first number is given.	**2**
MG 2.1* Draw the points corresponding to linear relationships on graph paper (e.g., draw 10 points on the graph of the equation $y = 3x$ and connect them by using a straight line).	**2**
MG 2.2* Understand that the length of a horizontal line segment equals the difference of the *x*-coordinates.	**2**
MG 2.3* Understand that the length of a vertical line segment equals the difference of the *y*-coordinates.	**2**
NS 1.7 Write the fraction represented by a drawing of parts of a figure; represent a given fraction by using drawings; and relate a fraction to a simple decimal on a number line.	**1**
NS 2.1 Estimate and compute the sum or difference of whole numbers and positive decimals to two places.	**1**
AF 1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g., demonstrate an understanding and the use of the concept of a variable).	**1**
AF 1.4 Use and interpret formulas (e.g., area = length × width or $A = lw$) to answer questions about quantities and their relationships.	**1**
MG 3.1 Identify lines that are parallel and perpendicular.	**1**
MG 3.2 Identify the radius and diameter of a circle.	**1**
SDAP 1.1 Formulate survey questions; systematically collect and represent data on a number line; and coordinate graphs, tables, and charts.	**1**
SDAP 1.3 Interpret one- and two-variable data graphs to answer questions about a situation.	**1**

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SDAP 1.2 Identify the mode(s) for sets of categorical data and the mode(s), median, and any apparent outliers for numerical data sets.	**2/3****
SDAP 2.1 Represent all possible outcomes for a simple probability situation in an organized way (e.g., tables, grids, tree diagrams).	**2/3****
SDAP 2.2 Express outcomes of experimental probability situations verbally and numerically (e.g., 3 out of 4; ¾).	**2/3****
NS 1.5 Explain different interpretations of fractions, for example, parts of a whole, parts of a set, and division of whole numbers by whole numbers; explain equivalents of fractions (see Standard 4.0).	**1/2****
NS 1.6 Write tenths and hundredths in decimal and fraction notations, and know the fraction and decimal equivalents for halves and fourths (e.g., ½ = 0.5 or .50; 7/4 = 1 ¾ = 1.75).	**1/2****
NS 2.2 Round two-place decimals to one decimal or the nearest whole number and judge the reasonableness of the rounded answer.	**1/2****
NS 4.1 Understand that many whole numbers break down in different ways (e.g., 12 = 4 × 3 = 2 × 6 = 2 × 2 × 3).	**1/2****
MG 1.1 Measure the area of rectangular shapes by using appropriate units such as square centimeter (cm^2), square meter (m^2), square kilometer (km^2), square inch (in^2), square yard (yd^2), or square mile (mi^2).	**1/2****
MG 1.2 Recognize that rectangles that have the same area can have different perimeters.	**1/2****
MG 1.3 Understand that rectangles that have the same perimeter can have different areas.	**1/2****
MG 1.4 Understand and use formulas to solve problems involving perimeters and areas of rectangles and squares. Use those formulas to find the areas of more complex figures by dividing the figures into basic shapes.	**1/2****
MG 3.3 Identify congruent figures.	**1/3****
MG 3.4 Identify figures that have bilateral and rotational symmetry.	**1/3****
MG 3.5 Know the definitions of a right angle, an acute angle, and an obtuse angle. Understand that 90°, 180°, 270°, and 360° are associated, respectively with ¼, ½, ¾, and full turns.	**1/3****
MG 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.	**1/3****
MG 3.7 Know the definitions of different triangles (e.g., equilateral, isosceles, scalene) and identify their attributes.	**1/3****

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MG 3.8 Know the definition of different quadrilaterals (e.g., rhombus, square, rectangle, parallelogram, trapezoid).	**1/3****
NS 1.4* Decide when a rounded solution is called for and explain why such a solution may be appropriate.	**NA*****
MR 1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.	**Embedded**
MR 1.2 Determine when and how to break a problem into simpler parts.	**Embedded**
MR 2.1 Use estimation to verify the reasonableness of calculated results.	**Embedded**
MR 2.2 Apply strategies and results from simpler problems to more complex problems.	**Embedded**
MR 2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.	**Embedded**
MR 2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.	**Embedded**
MR 2.5 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.	**Embedded**
MR 2.6 Make precise calculations and check the validity of the results from the context of the problem.	**Embedded**
MR 3.1 Evaluate the reasonableness of the solution in the context of the original situation.	**Embedded**
MR 3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.	**Embedded**
MR 3.3 Develop generalizations of the results obtained and apply them in other circumstances.	**Embedded**

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