Correlation to California Standards

Mathematics Content and Alignment with Standards

The No Child Left Behind (NCLB) legislation mandates that all states adopt academic standards that identify the skills students will learn in kindergarten through grade 12. While many states had already adopted academic standards prior to NCLB, the legislation set requirements to ensure that the standards were detailed and comprehensive.

Standards are designed to focus instruction and guide adoption of curricula. Standards are statements that describe the criteria necessary for students to meet specific academic goals. They define the knowledge, skills, and content students should acquire at each level. Standards are also used to develop standardized tests to evaluate students' academic progress.

Teacher Created Materials is committed to producing educational materials that are research and standards based. In this effort, this product was designed to meet the *California Mathematics Content Standards*. There are three types of skills met within this program. Each of these is described below.

Foundational Skills and Concepts

The foundational skills and concepts include standards selected from grades 2–6 of the *Mathematics Framework for California Public Schools (2006 Edition).* The skills identified in these standards provide students with the foundational knowledge needed to master the targeted standards for algebra readiness. Many of these standards are directly addressed in Unit 1. They are also embedded throughout the rest of the program. The program often includes a review of the foundational skills prior to introducing a related targeted standard. To support reteaching and retesting of the foundational skills, additional activity sheets are included on the *Teacher Resource CD* in the **Foundational Skills** folder.

Targeted Standards for Algebra Readiness

Active Algebra: Algebra Readiness covers, in depth, the 16 standards targeted for algebra readiness from the *Mathematics Framework for California Public Schools.* These standards are taken from grade 7 and Algebra I. Students should master the skills identified in these standards to be algebra ready. These standards are directly taught and reinforced repeatedly throughout the program. To ensure depth of coverage for these key standards, additional activity sheets are included on the *Teacher Resource CD* in the **Targeted Standards** folder.

Mathematical Reasoning Standards

The grade 7 mathematical reasoning standards are integrated throughout the *Algebra Readiness* program. At least one grade 7 targeted standard is used in conjunction with each mathematical reasoning standard. To specifically address this set of standards, a problem-solving strategy is introduced in a lesson at the end of each unit. In addition to the problem-solving lessons, application problems are integrated throughout the program. These problems are found in each *Teacher Edition*, the *Guided Practice Book*, and the **Transparencies** folder on the CD.

Correlation to California Standards *(cont.)*

Targeted Standard	Unit Number and Lesson Number
Grade 7—Number Sense	
Grade 7, Number Sense 1.2—Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.	Unit 1 Lesson 7; Unit 1 Lesson 8; Unit 1 Problem-Solving Lesson 1; Unit 2 Lesson 15; Unit 2 Lesson 16; Unit 2 Lesson 17; Unit 2 Lesson 18; Unit 2 Lesson 19; Unit 2 Problem-Solving Lesson 2; Unit 3 Problem-Solving Lesson 3; Unit 4 Lesson 41; Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 7 Problem-Solving Lesson 7
Grade 7, Number Sense 1.3—Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.	Unit 4 Lesson 38; Unit 4 Lesson 39; Unit 4 Lesson 40; Unit 4 Lesson 41; Unit 4 Lesson 43; Unit 4 Lesson 44; Unit 6 Problem-Solving Lesson 6
Grade 7, Number Sense 1.5—Know that every rational number is either a terminating or repeating decimal and be able to convert terminating decimals into reduced fractions.	Unit 1 Lesson 3
Grade 7, Number Sense 2.1—Understand negative whole-number exponents. Multiply and divide expressions involving exponents with a common base.	Unit 7 Lesson 82; Unit 7 Lesson 87
Grade 7—Algebra and Functions	
Grade 7, Algebra and Functions 1.1—Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description (e.g., three less than a number, half as large as area A).	Unit 2 Lesson 12; Unit 2 Lesson 24; Unit 2 Lesson 25; Unit 2 Lesson 26; Unit 3 Lesson 30; Unit 3 Lesson 31; Unit 6 Lesson 79; Unit 6 Lesson 80
Grade 7, Algebra and Functions 1.3—Simplify numerical expressions by applying properties of rational numbers (e.g., identity, inverse, distributive, associative, commutative) and justify the process used.	Unit 2 Lesson 21; Unit 2 Lesson 22; Unit 2 Lesson 23; Unit 7 Lesson 92
Grade 7, Algebra and Functions 2.1—Interpret positive whole-number powers as repeated multiplication and negative whole-number powers as repeated division or multiplication by the multiplicative inverse. Simplify and evaluate expressions that include exponents.	Unit 2 Lesson 14; Unit 2 Lesson 20; Unit 7 Lesson 82; Unit 7 Lesson 83; Unit 7 Lesson 84; Unit 7 Lesson 85; Unit 7 Lesson 86; Unit 7 Lesson 87; Unit 7 Lesson 89; Unit 7 Lesson 92

Correlation to California Standards *(cont.)*

Targeted Standard	Unit Number and Lesson Number
Grade 7—Algebra and Functions *(cont.)*	
Grade 7, Algebra and Functions 3.3—Graph linear functions, noting that the vertical change (change in *y*-value) per unit of horizontal change (change in *x*-value) is always the same and know that the ratio ("rise over run") is called the slope of a graph.	Unit 5 Lesson 57; Unit 5 Lesson 60; Unit 5 Lesson 61; Unit 5 Lesson 62; Unit 5 Lesson 64; Unit 5 Lesson 66; Unit 6 Lesson 78
Grade 7, Algebra and Functions 3.4—Plot the values of quantities whose ratios are always the same (e.g., cost to the number of an item, feet to inches, circumference to diameter of a circle). Fit a line to the plot and understand that the slope of the line equals the quantities.	Unit 5 Lesson 63
Grade 7, Algebra and Functions 4.1—Solve two-step linear equations and inequalities in one variable over the rational numbers, interpret the solution or solutions in the context from which they arose, and verify the reasonableness of the results.	Unit 3 Lesson 28; Unit 3 Lesson 29; Unit 3 Lesson 32; Unit 3 Lesson 33; Unit 3 Lesson 35; Unit 6 Lesson 70; Unit 6 Lesson 71; Unit 6 Lesson 72
Grade 7, Algebra and Functions 4.2—Solve multistep problems involving rate, average speed, distance, and time or a direct variation.	Unit 5 Lesson 67
Grade 7—Measurement and Geometry	
Grade 7, Measurement and Geometry 1.3—Use measures expressed as rates (e.g., speed, density) and measures expressed as products (e.g., person-days) to solve problems; check the units of the solutions; and use dimensional analysis to check the reasonableness of the answer.	Unit 5 Lesson 68
Grade 7, Measurement and Geometry 3.3—Know and understand the Pythagorean theorem and its converse and use it to find the length of the missing side of a right triangle and the lengths of other line segments and, in some situations, empirically verify the Pythagorean theorem by direct measurement.	Unit 7 Lesson 88; Unit 7 Lesson 89
Grade 7—Mathematical Reasoning	
Grade 7, Mathematical Reasoning 1.0—Students make decisions about how to approach problems.	Unit 1 Problem-Solving Lesson 1; Unit 2 Problem-Solving Lesson 2; Unit 3 Problem-Solving Lesson 3; Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 6 Problem-Solving Lesson 6; Unit 7 Problem-Solving Lesson 7

Correlation to California Standards *(cont.)*

Targeted Standard	Unit Number and Lesson Number
Grade 7—Mathematical Reasoning *(cont.)*	
Grade 7, Mathematical Reasoning 1.1—Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.	Unit 2 Problem-Solving Lesson 2; Unit 4 Problem-Solving Lesson 4; Unit 5 Lesson 58; Unit 7 Problem-Solving Lesson 7
Grade 7, Mathematical Reasoning 1.2—Formulate and justify mathematical conjectures based on a general description of the mathematical question or problem posed.	Unit 7 Lesson 88
Grade 7, Mathematical Reasoning 1.3—Determine when and how to break a problem into simpler parts.	Unit 1 Problem-Solving Lesson 1
Grade 7, Mathematical Reasoning 2.0—Students use strategies, skills, and concepts in finding solutions.	Unit 1 Problem-Solving Lesson 1; Unit 2 Problem-Solving Lesson 2; Unit 3 Problem-Solving Lesson 3; Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 6 Problem-Solving Lesson 6; Unit 7 Problem-Solving Lesson 7
Grade 7, Mathematical Reasoning 2.1—Use estimation to verify the reasonableness of calculated results.	Unit 6 Problem-Solving Lesson 6
Grade 7, Mathematical Reasoning 2.2—Apply strategies and results from simpler problems to more complex problems.	Unit 1 Problem-Solving Lesson 1; Unit 6 Lesson 73; Unit 6 Lesson 74; Unit 6 Lesson 75; Unit 6 Lesson 76; Unit 6 Lesson 77
Grade 7, Mathematical Reasoning 2.3—Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.	Unit 5 Lesson 63
Grade 7, Mathematical Reasoning 2.4—Make and test conjectures by using both inductive and deductive reasoning.	Unit 3 Problem-Solving Lesson 3
Grade 7, Mathematical Reasoning 2.5—Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.	Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 7 Problem-Solving Lesson 7
Grade 7, Mathematical Reasoning 2.6—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.	Unit 5 Problem-Solving Lesson 5; Unit 6 Lesson 72

Correlation to California Standards *(cont.)*

Targeted Standard	Unit Number and Lesson Number
Grade 7—Mathematical Reasoning *(cont.)*	
Grade 7, Mathematical Reasoning 2.7—Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.	Unit 3 Problem-Solving Lesson 3; Unit 6 Problem-Solving Lesson 6
Grade 7, Mathematical Reasoning 2.8—Make precise calculations and check the validity of the results from the context of the problem.	Unit 2 Problem-Solving Lesson 2
Grade 7, Mathematical Reasoning 3.0—Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.	Unit 1 Problem-Solving Lesson 1; Unit 2 Problem-Solving Lesson 2; Unit 3 Problem-Solving Lesson 3; Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 6 Problem-Solving Lesson 6; Unit 7 Problem-Solving Lesson 7
Grade 7, Mathematical Reasoning 3.1—Evaluate the reasonableness of the solution in the context of the original situation.	Unit 1 Problem-Solving Lesson 1; Unit 2 Problem-Solving Lesson 2; Unit 3 Problem-Solving Lesson 3; Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 6 Problem-Solving Lesson 6; Unit 7 Problem-Solving Lesson 7
Grade 7, Mathematical Reasoning 3.2—Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.	Unit 1 Lesson 3; Unit 1 Lesson 4; Unit 1 Lesson 5; Unit 1 Lesson 7; Unit 1 Lesson 9; Unit 1 Lesson 10; Unit 2 Lesson 15; Unit 2 Lesson 17; Unit 2 Lesson 20; Unit 3 Lesson 28; Unit 3 Lesson 29; Unit 5 Lesson 49; Unit 5 Lesson 63; Unit 5 Lesson 67; Unit 6 Problem-Solving Lesson 6; Unit 7 Lesson 86
Grade 7, Mathematical Reasoning 3.3—Develop generalizations of the results obtained and the strategies used and apply them to new problem situations.	Unit 1 Problem-Solving Lesson 1; Unit 2 Problem-Solving Lesson 2; Unit 3 Problem-Solving Lesson 3; Unit 4 Problem-Solving Lesson 4; Unit 5 Problem-Solving Lesson 5; Unit 6 Problem-Solving Lesson 6; Unit 7 Problem-Solving Lesson 7
Algebra I	
Algebra I, 2.0—Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and raising to a fractional power. They understand and use the rules of exponents.	Unit 7 Lesson 83; Unit 7 Lesson 84; Unit 7 Lesson 85; Unit 7 Lesson 86; Unit 7 Lesson 90; Unit 7 Lesson 91
Algebra I, 4.0—Students simplify expressions before solving linear equations and inequalities in one variable, such as $3(2x - 5) + 4(x - 2) = 12$.	Unit 2 Lesson 20; Unit 3 Lesson 30; Unit 3 Lesson 31; Unit 3 Lesson 34; Unit 3 Lesson 36; Unit 6 Lesson 71
Algebra I, 5.0—Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.	Unit 3 Lesson 32; Unit 3 Lesson 33; Unit 3 Lesson 34; Unit 3 Lesson 35; Unit 3 Lesson 36; Unit 6 Lesson 73; Unit 6 Lesson 74; Unit 6 Lesson 75; Unit 6 Lesson 76; Unit 6 Lesson 77

Correlation to California Standards *(cont.)*

Foundational Skill or Concept	Unit Number and Lesson Number
Number Sense	
Grade 3, Number Sense 1.3—Identify the place value for each digit in numbers to 10,000.	Unit 1 Lesson 2
Grade 3, Number Sense 1.5—Use expanded notation to represent numbers (e.g., 3,206 = 3,000 + 200 + 6).	Unit 1 Lesson 2
Grade 4, Number Sense 3.1—Demonstrate an understanding of, and the ability to use, standard algorithms for the addition and subtraction of multidigit numbers.	Unit 1 Lesson 4
Grade 4, Number Sense 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.	Unit 1 Lesson 5; Unit 4 Lesson 43; Unit 4 Lesson 46
Grade 5, Number Sense 1.4—Determine the prime factors of all numbers through 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor (e.g., $24 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3$).	Unit 1 Lesson 6
Grade 6, Number Sense 1.1—Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.	Unit 1 Lesson 3; Unit 1 Lesson 6; Unit 6 Lesson 70
Grade 6, Number Sense 1.4—Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.	Unit 4 Lesson 39; Unit 4 Lesson 40; Unit 4 Lesson 44; Unit 4 Lesson 45; Unit 4 Lesson 47
Grade 6, Number Sense 2.0—Students calculate and solve problems involving addition, subtraction, multiplication, and division.	Unit 1 Lesson 4; Unit 1 Lesson 5
Grade 6, Number Sense 2.1—Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation.	Unit 1 Lesson 8; Unit 4 Lesson 45; Unit 4 Lesson 46; Unit 4 Lesson 47
Grade 6, Number Sense 2.2—Explain the meaning of multiplication and division of positive fractions and perform the calculations (e.g., $\frac{5}{8} \div \frac{15}{16} = \frac{5}{8} \times \frac{16}{15} = \frac{2}{3}$).	Unit 1 Lesson 6; Unit 1 Lesson 7; Unit 4 Lesson 38

Correlation to California Standards *(cont.)*

Foundational Skill or Concept	Unit Number and Lesson Number
Algebra and Functions	
Grade 2, Algebra and Functions 1.1—Use the commutative and associative rules to simplify mental computations and to check results.	Unit 1 Lesson 9
Grade 3, Algebra and Functions 1.5—Recognize and use the commutative and associative properties of multiplication (e.g., if 5 x 7 = 35, then what is 7 x 5? and if 5 x 7 x 3 = 105, then what is 7 x 3 x 5?).	Unit 1 Lesson 9
Grade 4, Algebra and Functions 1.2—Interpret and evaluate mathematical expressions that now use parentheses.	Unit 2 Lesson 13; Unit 2 Lesson 15; Unit 2 Lesson 16; Unit 2 Lesson 17; Unit 2 Lesson 18; Unit 2 Lesson 19
Grade 4, Algebra and Functions 1.3—Use parentheses to indicate which operation to perform first when writing expressions containing more than two terms and different operations.	Unit 2 Lesson 13; Unit 2 Lesson 14
Grade 4, Algebra and Functions 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.	Unit 5 Lesson 54; Unit 5 Lesson 55
Grade 4, Algebra and Functions 2.0—Students know how to manipulate equations.	Unit 3 Lesson 29
Grade 4, Algebra and Functions 2.1—Know and understand that equals added to equals are equal.	Unit 1 Lesson 10
Grade 4, Algebra and Functions 2.2—Know and understand that equals multiplied by equals are equal.	Unit 1 Lesson 10
Grade 5, Algebra and Functions 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.	Unit 5 Lesson 54; Unit 5 Lesson 55; Unit 5 Lesson 56
Grade 5, Algebra and Functions 1.3—Know and use the distributive property in equations and expressions with variables.	Unit 1 Lesson 9; Unit 2 Lesson 21; Unit 2 Lesson 22; Unit 2 Lesson 23
Grade 5, Algebra and Functions 1.4—Identify and graph ordered pairs in the four quadrants of the coordinate plane.	Unit 5 Lesson 49; Unit 5 Lesson 51; Unit 5 Lesson 53

Correlation to California Standards *(cont.)*

Foundational Skill or Concept	Unit Number and Lesson Number
Algebra and Functions *(cont.)*	
Grade 6, Algebra and Functions 1.0—Students write verbal expressions and sentences as algebraic expressions and equations; they evaluate algebraic expressions, solve simple linear equations, and graph and interpret their results.	Unit 2 Lesson 12; Unit 2 Lesson 24; Unit 2 Lesson 25; Unit 2 Lesson 26; Unit 5 Lesson 58; Unit 5 Lesson 67
Grade 6, Algebra and Functions 1.1—Write and solve one-step linear equations in one variable.	Unit 3 Lesson 28; Unit 5 Lesson 56; Unit 5 Lesson 60; Unit 5 Lesson 61; Unit 5 Lesson 62; Unit 5 Lesson 66; Unit 5 Lesson 68; Unit 6 Lesson 78
Measurement and Geometry	
Grade 4, Measurement and Geometry 2.0—Students use two-dimensional coordinate grids to represent points and graph lines and simple figures.	Unit 5 Lesson 49; Unit 5 Lesson 51; Unit 5 Lesson 53
Grade 4, Measurement and Geometry 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).	Unit 5 Lesson 54; Unit 5 Lesson 55
Grade 4, Measurement and Geometry 2.2—Understand that the length of a horizontal line segment equals the difference of the *x*-coordinates.	Unit 5 Lesson 50
Grade 4, Measurement and Geometry 2.3—Understand that the length of a vertical line segment equals the difference of the *y*-coordinates.	Unit 5 Lesson 50

A comprehensive list of each standard and its correlating lessons is included on the CD within the Algebra Readiness Resources *spreadsheet (resource.xls). Also included in the spreadsheet are lists of the* Guided Practice Book *pages and CD Transparencies with their correlated standards. Further, this extensive spreadsheet contains other easy-to-reference lists of the important resources within this program.*