Essential Learning from 1st Grade to 2nd Grade

For more in-depth examples of tasks, expectations, and student reasoning on these topics, refer to the 1st Grade CA Math Framework at
http://www.cde.ca.gov/ci/ma/cf/documents/mathfwgrade1.pdf

In kindergarten through grade five, the focus is on the addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals, with a balance of concepts, skills, and problem solving. Arithmetic is viewed as an important set of skills and also as a thinking subject that, done thoughtfully, prepares students for algebra. Measurement and geometry develop alongside number and operations and are tied specifically to arithmetic along the way.

In kindergarten through grade two, students focus on addition and subtraction and measurement using whole numbers. To be prepared for grade-two mathematics, students should be able to demonstrate that they have acquired particular mathematical concepts and procedural skills by the end of grade one and have met the fluency expectations for the grade. For grade-one students, the expected fluencies are to add and subtract within 10 (1.OA.6). These fluencies and the conceptual understandings that support them are foundational for work in later grades.

It is particularly important for students in grade one to attain the concepts, skills, and understandings necessary to represent and solve problems involving addition and subtraction (1.OA.1–2); understand and apply properties of operations and the relationship between addition and subtraction (1.OA.3–4); add and subtract within 20 (1.OA.5–6); work with addition and subtraction equations (1.OA.7–8); extend the counting sequence (1.NBT.1); understand place value and use place-value understanding and properties of operations to add and subtract (1.NBT.2–6); and measure lengths indirectly and by iterating length units (1.MD.1–2).

Place Value
By the end of grade one, students are expected to count to 120 (starting from any number), compare whole numbers (at least to 100), and read and write numerals in the same range. Students need to think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Counting to 120 and reading and representing these numbers with numerals will prepare students to count, read, and write numbers within 1000 in grade two.

Addition and Subtraction
By the end of grade one, students are expected to add and subtract within 20 and demonstrate fluency with these operations within 10 (1.OA.6). Students can represent and solve word problems involving add-to, take-from, put-together, take-apart, and compare situations, including addend-unknown situations. They know how to apply properties of addition (associative and commutative) and strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems. Students use a variety of methods to add within 100, subtract multiples of 10 (using various strategies), and mentally find 10 more or 10 less without counting. Students understand how to solve addition and subtraction equations.

Addition and subtraction are major instructional foci for kindergarten through grade two. Students who have met the grade-one standards for addition and subtraction will be prepared to meet the

grade-two standards of adding and subtracting within 1000 (using concrete models, drawings, and strategies); fluently adding and subtracting within 100 (using various strategies) and within 20 (using mental strategies); and knowing from memory all sums of two one-digit numbers.

Measurement of Lengths

By the end of grade one, students are expected to order three objects by length (using non-standard units). Students indirectly measure objects, comparing the lengths of two objects by using a third object as a measuring tool. Mastering grade-one measurement standards will prepare students to measure and estimate lengths (in standard units) as required in grade two.