

First Grade Math Curriculum

First Grade mathematics is about (1) developing understanding of addition, subtraction, and strategies for addition First Grade mathematics is about (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Module 1: Sums and Differences to 10

In Grade 1, work with numbers to 10 continues to be a major stepping-stone in learning the place value system. In Module 1, students work to further understand the meaning of addition and subtraction begun in Kindergarten, largely within the context of the Grade 1 word problem types. They begin intentionally and energetically building fluency with addition and subtraction facts—a major gateway to later grades.

Module 2: Introduction to Place Value Through Addition and Subtraction Within 20.

In Module 2, students add and subtract within 20. Work begins by modeling “adding and subtracting across ten” in word problems and with equations. Solutions involving decomposition and composition like that shown to the right for $8 + 5$ reinforce the need to “make 10.” In Module 1, students loosely grouped 10 objects to make a ten. They now transition to conceptualizing that ten as a single unit (using 10 linking cubes stuck together, for example). This is the next major stepping-stone in understanding place value, learning to group “10 ones” as a single unit: 1 ten. Learning to “complete a unit” empowers students in later grades to understand “renaming” in the addition algorithm, to add 298 and 35 mentally (i.e., $298 + 2 + 33$), and to add measurements like 4 m, 80 cm, and 50 cm (i.e., $4\text{ m} + 80\text{ cm} + 20\text{ cm} + 30\text{ cm} = 4\text{ m} + 1\text{ m} + 30\text{ cm} = 5\text{ m } 30\text{ cm}$).

Module 3: Ordering and Comparing Length Measurements as Numbers

Module 3, which focuses on measuring and comparing lengths indirectly and by iterating length units, gives students a few weeks to practice and internalize “making a 10” during daily fluency activities.

Module 4: Place Value, Comparison, Addition and Subtraction to 40

Module 4 returns to understanding place value. Addition and subtraction within 40 rest on firmly establishing a “ten” as a unit that can be counted, first introduced at the close of Module 2. Students begin to see a problem like $23 + 6$ as an opportunity separate the “2 tens” in 23 and concentrate on the familiar addition problem $3 + 6$. Adding $8 + 5$ is related to solving $28 + 5$; complete a unit of ten and add 3 more.

Module 5: Identifying, Composing, and Partitioning Shapes

In Module 5, students think about attributes of shapes and practice composing and decomposing geometric shapes. They also practice work with addition and subtraction within 40 during daily fluency activities (from Module 4). Thus, this module provides important “internalization time” for students between two intense number-based modules. The module placement also gives more spatially-oriented students the opportunity to build their confidence before they return to arithmetic.

Module 6: Place Value, Comparison, Addition and Subtraction to 100

Although Module 6 focuses on “adding and subtracting within 100,” the learning goal differs from the “within 40” module. Here, the new level of complexity is to build off the place value understanding and mental math strategies that were introduced in earlier modules. Students explore by using simple examples and the familiar units of 10 made out of linking cubes, bundles, and drawings. Students also count to 120 and represent any number within that range with a numeral and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.