

# Mathematics

## Grade 1

It is essential that these standards be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations.

### 1.1 Number and Operations: **Develop an understanding of whole number relationships, including grouping in tens and ones.**

1.1.1 Compare and order whole numbers to 100.

1.1.2 Represent whole numbers on a number line, demonstrating an understanding of the sequential order of the counting numbers and their relative magnitudes.

1.1.3 Count and group objects in tens and ones.

1.1.4 Identify the number of tens and ones in whole numbers between 10 and 100, especially recognizing the numbers 10 to 19 as 1 group of ten and a particular number of ones.

1.1.5 Determine the value of collections of pennies, nickels, and dimes.

### 1.2 Number and Operations and Algebra: **Develop understandings of addition and subtraction and strategies for basic addition facts and related subtraction facts.**

1.2.1 Model “part-whole,” “adding to,” “taking away from,” and “comparing” situations to develop an understanding of the meanings of addition and subtraction.

1.2.2 Develop and use efficient strategies for adding and subtracting whole numbers using a variety of models, including discrete objects, length-based models (e.g., lengths of connecting cubes) and number lines.

1.2.3 Apply with fluency sums to 10 and related subtraction facts.

1.2.4 Use the concept of commutative [ $4 + 2 = 2 + 4$ ], associative [ $(4 + 3) + 7 = 4 + (3 + 7)$ ], and identity [ $0 + 3 = 3$ ] properties of addition to solve problems involving basic facts.

1.2.5 Relate addition and subtraction as inverse operations.

1.2.6 Identify, create, extend, and supply a missing element in number patterns involving addition or subtraction by a single-digit number.

### 1.3 Geometry: **Compose and decompose two- and three-dimensional geometric shapes.**

1.3.1 Describe geometric attributes of shapes (e.g., round, corners, sides) to determine how they are alike and different.

1.3.2 Recognize and create shapes that are congruent or have symmetry.

1.3.3 Compose and decompose shapes (e.g., cut a square into two right triangles and put two cubes together to make a rectangular prism), thus building an understanding of part-whole relationships as well as the properties of the original and composite shapes.

1.3.4 Recognize shapes when viewed from different perspectives and orientations.