Grade 4 Overview

In Grade 4, instructional time should focus on three areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; and (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry. Please note that while every standard/topic in the grade level has not been included in this overview, all standards should be included in instruction.

1. Through their learning in the *Number and Operations in Base Ten* domain, students:
   - generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place;
   - apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers;
   - select and accurately apply appropriate methods to estimate or mentally calculate products, depending on the numbers and the context;
   - develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems;
   - apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends; and
   - select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

2. Through their learning in the *Numbers and Operations—Fractions* domain, students:
   - develop understanding of fraction equivalence and operations with fractions;
   - recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and develop methods for generating and recognizing equivalent fractions; and
   - extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

3. Through their learning in the *Geometry* domain, students:
   - deepen their understanding of properties of two-dimensional shapes (e.g., angles, parallelism, and symmetry).

Mathematical Practices	
1. Make sense of problems and persevere in solving them.	5. Use appropriate tools strategically.
2. Reason abstractly and quantitatively.	6. Attend to precision.
3. Construct viable arguments and critique the reasoning of others.	7. Look for and make use of structure.
4. Model with mathematics.	8. Look for and express regularity in repeated reasoning.