



Fourth Grade Math

What is new to Fourth Grade:

Recognize that in a multi-digit whole number a digit in one place represents ten times what it represents in the place to its right. (4.NBT.1)

Explain why fractions are equivalent. (4.NF.1)

Compare two fractions with different numerators and different denominators. (4.NF.2)

Add and subtract fractions and mixed numbers with like denominators. (4.NF.3)

Multiply a fraction by a whole number. (4.NF.4)

Know relative sizes of measurement units within one system of units including km,m,cm; kg, g; l, ml; hr, min, sec. (4.MD.1)

Measure angles in whole-number degrees using a protractor. Sketch angle of specified measure. (4.MD.6)

What is no longer taught in Fourth Grade:

Standard Algorithm for multiplication and division

Rounding Decimals (Rounding only whole numbers)

Adding and Subtracting Decimals

Negative Numbers

Circles

Probability

Coordinate Grid

Evaluating Expressions

Parentheses in Expressions

Solid Figures

Mode and Median

Mathematical Practice Standards:

Fourth Graders will:

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

Critical Areas of Focus

In Grade 4, instructional time should focus on three critical 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; (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.

1. Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They 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. Students 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. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.
2. Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $15/9 = 5/3$), and they develop methods for generating and recognizing equivalent fractions. Students 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. Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.



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