

Mathematics

Grade Four

NJ DOE, NJSLA: 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.

New Jersey Student Learning Standards for Mathematics

Unit	Time	Overview
Unit 1 Place Value, Rounding Whole Numbers, Addition and Subtraction	25 days	In this Unit students will use their understanding of place value to make meaning of reading, writing and comparing multi-digit numbers through the use of place-value charts and expanded notation. Students will explore the concept that the value of each number is ten times more than the value of the number to the right. Students create math models using base ten blocks, to demonstrate the value of digits in expanded form. Students learn that a well developed understanding of place value helps to accurately and efficiently add multi-digit numbers. By using benchmarking strategies, students will also learn to apply rounding to solve problems. To build accuracy and efficiency with using the four operations with multi-digit whole numbers, students deconstruct numbers using place value, so that they can combine numbers of like value. Students move to the efficiency of the traditional algorithms.
Unit 2 Multiplication, Division, & Algebraic Thinking	24 days	In this Unit, students will: Use multiplicative comparisons, Write equations to represent multiplicative comparison in word problems, Solve word problems involving multiplicative comparisons using multiplication or division, Apply undertaking of multiples and factors to solve problems, Use rules to generate or extend number patterns, Use equations with a letter standing for the unknown to represent and solve with equations multi-step word problems.
Unit 3 3 Multi-Digit Operations and Measurement	26 days	In this Unit, students develop strategies of place value and partial products to multiply one and two digit numbers. They relate the area model for multiplication for factors, partial products and products. Students convert units within a single system of measurement and progress to converting two different units of measurement to a single unit of measurement to compute and solve word problems. Students divide using equal groups or area models. Students end the unit learning two formulas for finding the perimeter of a rectangle.
Unit 4 Fractions, decimals, and measurement: addition, subtraction, and multiplication	55 days	In this Unit, students will explore equivalent fractions using linear and area models. Students begin to compare fractions using benchmark fractions, and they add and subtract fractions with like denominators. Students apply their understanding of decomposing whole numbers to decomposing fractions. Students work with fractions greater than one using a variety of models. Students connect multiplying fractions to their earlier work with repeated addition of like denominators. Students use decimal notation for fractions with denominators of 10 or 100. Students extend place value understanding to their work with decimals. Students connect their work with fractions to time, money, length, liquid volume, mass and weight.
Unit 5 Geometry and Measurement	24 days	In this Unit, students will explore geometric figures including point, line, line segment, ray and perpendicular. Students will determine if angles are right, acute or obtuse and through this reasoning will choose which scale to use on a protractor to accurately measure an angle. Students will include angle measures and side relationships to sort and classify shapes. Students will identify symmetry.

Content Continuum

Grade Four Mathematics

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, 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.

New Jersey Student Learning Standards

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.

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.

New Jersey Student Learning Standards

INSTRUCTIONAL / SUPPLEMENTAL MATERIALS

[Illustrative Mathematics](#)

KEY FEATURES OF REVISION

- Incorporates 2023 NJDOE Math Standards Updates inclusive of Climate Change Guidance
- Intentional Focus on Math Discourse and Academic and Math Vocabulary
- Extensive inclusion of Prerequisite Skills
- Incorporation of Personalized Instruction - My Path lessons

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