



Mathematics
Course: Grade 2

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

New Jersey Student Learning Standards for Mathematics

Unit 1	20 days	In Unit 1, the students will explore the numbers that they see in the world around them and make mathematical representations using numbers, words, pictures, tables, graphs and objects. Students will use number grids and number lines as mathematical representations to review number patterns and sequences, and as math tools for operations with addition and subtraction. Students will find equivalent names for numbers, and compare numbers and money using the $<$, $>$, and $=$ symbols. Students will use place-value patterns to solve number-grid puzzles to prepare for mental and written addition and subtraction strategies.
Unit 2	20 days	In Unit 2, the students will extend their understanding of place value to the hundreds place, focus on addition while exploring the Commutative Property, use multiple strategies to solve addition facts, and identify sums as even or odd numbers. Students will extend the use of fact strategies to build toward fluency; knowing from memory all sums of two 1-digit numbers and demonstrate automaticity with doubles addition facts.
Unit 3	20 days	In Unit 3, the students develop subtraction strategies, relate addition and subtraction as inverse operations, use an understanding of the Associative Property to add, and use 10 as a benchmark number of the base-ten number system. Students incorporate new routines and academic games to build toward fluency with addition and subtraction within 20. Students apply place-value understanding and properties of operations to add and subtract to solve simple function tables.
Unit 4	20 days	In Unit 4, the students will apply strategies based on their understanding of place value to compare the values of 2-digit and 3-digit numbers. Students will be able to explain representations of 3-digit numbers, and begin to connect place-value concepts to computation and use regrouping to add and subtract values within 100, using base-ten manipulatives. Students will read, write and tell time to the nearest hour and half-hour, identify events as a.m., or p.m., and accurately measure length in inches and centimeters.
Unit 5	20 days	In Unit 5, the students will demonstrate fluency with addition facts; fluently add and subtract within 100, and use mental math strategies to add or subtract 10 from 2- and 3-digit multiples of 10. Students will use addition and subtraction to solve one- and two-step word problems using money, open number lines, parts-total and change-to-more situational number-model diagrams. Students will find the total cost of two items and show exact change.
Unit 6	20 days	In Unit 6, the students will collect and display data and compare the counts by creating picture graphs and bar graphs. Students will solve one-step comparison number stories, including solving problems involving length and height, and are introduced to two-step number stories using manipulatives, drawings and diagrams to organize the information in problems and decide how to solve them. Students demonstrate and discuss their own invented addition strategies (any mental math strategy that is not the standard algorithm) and are introduced to a formal addition strategy; the partial-sums addition algorithm (combining place-value groups). Students continue to write and solve number models with unknowns using addition and subtraction.
Unit 7	20 days	In Unit 7, the students will use addition and subtraction strategies to add three or more numbers. Students will explain their strategies as they find similarities among problems and apply familiar strategies to new problems. Students will use yardsticks and meter sticks to measure lengths and distances in yards and meters. Students will collect data and display it in a frequency table and a line plot.
Unit 8	20 days	In Unit 8, the students will discern patterns or structure by describing, comparing and sorting 2- and 3-dimensional shapes according to their attributes. Students will work with the mathematical relationships of parallel and congruence. Students partition rectangles into rows and columns of same-size squares and explore strategies for determining the total number of objects in equal groups and arrays. Students write addition models to represent equal groups and arrays. Students solve number stories involving equal groups of objects by using their own invented strategies (a math strategy other than the standard algorithm).
Unit 9	20 days	In Unit 9, the students will create and name equal parts, and solve number stories about the total number of objects in two equal groups. Students will measure length with precision. Students will make exchanges among coins and find and write equivalent money amounts. Students will organize a set of digits to find the largest sum, and subtract using place value. Students work with multiples of 2, 5, and 10 and are exposed to multiplication number models.

Content Continuum

Grade 2 Mathematics

Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades. *NJSLS*

Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones.

Students develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. *NJSLS*

INSTRUCTIONAL / SUPPLEMENTAL MATERIALS

- [Textbook- Everyday Mathematics 4](#)
- [Engageny.org](#)
- [Illustrative Mathematics](#)
- [New Jersey Model Curriculum](#)

KEY FEATURES OF REVISION

- Aligned to New Jersey Student Learning Standards
- Aligned to Understanding By Design Framework
- Aligned to Webb's Depth of Knowledge
- Problem Based Assessments & Rubrics
- Additional on-line support and resources

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