



Grade 1 Unit Summaries: 2nd Edition¹

How Many of Each?: Addition, Subtraction, and the Number System 1

In this first number unit in Grade 1, students count, order, compare quantities, and work with the operation of addition. Students also work on finding addition combinations up to 10 and learn to make sense of and solve story problems. They are introduced to several of the classroom routines that practice and reinforce work with counting, developing visual images of number, collecting data, and working with concepts of time (calendar/clock).

Making Shapes and Designing Quilts: 2-D Geometry

This geometry unit focuses on two-dimensional shapes and the relationships between them. Students observe, describe, compare, classify, represent, and compose and decompose 2-D shapes. Students learn to use geometric language to describe and identify important features of familiar 2-D shapes. As they sort and describe groups of shapes, they begin to distinguish specific attributes of triangles and quadrilaterals. As a final project, students create paper quilts by repeating combinations of triangles and squares. The *Shapes* software is introduced as a tool for extending and deepening this work. This tool is designed for K–2 students to explore how different shapes go together, experiment with different sorts of geometric transformations (rotations, translation, reflection), explore patterning, and investigate symmetry.

Solving Story Problems: Addition, Subtraction, and the Number System 2

This unit focuses on counting to higher numbers (forward and back, counting sets of objects, comparing larger quantities, composing and decomposing numbers, and finding all the two-addend combinations of a number). Students revisit familiar addition activities with variations that encourage counting on, and they are introduced to the operation of subtraction. Through games and story problems, students' work focuses on developing an understanding of addition and subtraction, using numbers and notation to represent these operations, and developing strategies for solving addition and subtraction problems.

¹ This document applies to the 2nd edition of *Investigations* (2008, 2012). See <http://investigations.terc.edu/CCSS/> for changes when implementing *Investigations and the Common Core Standards*.

What Would You Rather Be?: Data Analysis

Students pose questions and collect and sort information about data. They make representations of their findings and share them with others. Students sort a group of objects according to a given attribute.

Fish Lengths and Animal Jumps: Measurement

This unit focuses on developing the ideas about linear measurement, which include understanding what length is and developing a foundation of skills for accurate linear measurement using nonstandard and standard units. As students measure with a variety of units, they investigate the idea that different-sized units result in different measurements. Using a real-world context, students measure with inch tiles and grapple with the idea of partial units and “at least as long as,” ideas that are important in both measurement and number and operations. They also solve story problems, which involve comparing length.

Number Games and Crayon Puzzles: Addition, Subtraction, and the Number System 3

Students work on composing numbers with two and three addends, and in a variety of contexts, they work with combinations that equal 10 and explore relationships among those combinations. The addition and subtraction work of this unit continues to focus on making sense of the operations of addition and subtraction, practicing adding and subtracting single-digit numbers, and solving addition and subtraction story problems. There is a focus on naming and comparing different strategies used for solving problems such as counting all, counting on or back, and using known-number combinations. Students also discuss how different tools such as objects, the number line, and 100 chart can be used to model and solve problems.

Color, Shape, and Number Patterns: Patterns and Functions

Students make, describe, and extend repeating patterns. As they analyze the regularities of these patterns and identify the unit of the pattern that repeats, they build an understanding of what makes patterns predictable. They use this information to determine what comes next or what comes several steps ahead in a repeating pattern. Students also work on constructing, describing, and extending number sequences with a constant increase generated by various problem contexts.

Twos, Fives, and Tens: Addition, Subtraction, and the Number System 4

Students revisit the number sequence as they count and write numbers to 100 and beyond. Students work on achieving fluency with the two-addend combinations of ten, they are introduced to ideas about equivalence ($8 + 5 = 10 + 3$), and they engage in activities that highlight the importance of ten in our Base-10 number system. As students work with contexts that provide opportunities to count by groups of 2s, 5s, and 10s, they think about ways to organize objects so that they are easier to count and combine, and they begin to make sense of what it means to count by equal groups.

Blocks and Boxes: 3-D Geometry

This second geometry unit in first grade focuses on three-dimensional shapes and the relationships between them. Students observe, describe, compare, classify, represent, and build with 3-D shapes. They develop vocabulary for naming and describing 3-D shapes and explore the relationship between 2-D and 3-D shapes. In this unit, students focus on the attributes of rectangular prisms. As a final project, they use 3-D shapes to construct a town and work with directions and paths as they plan routes through the town.