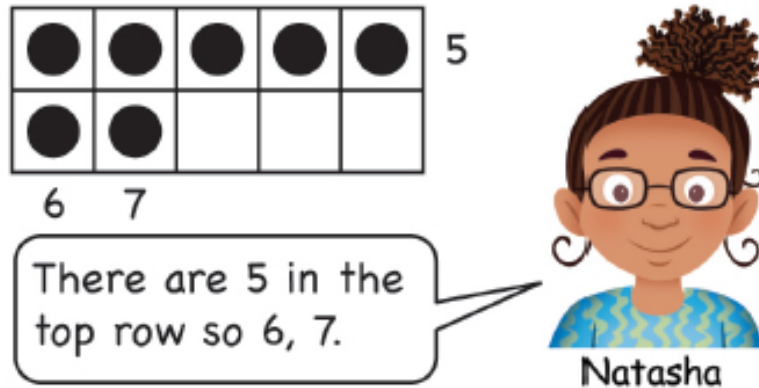


Grade 1 Unit Overviews



Unit 1: Welcome to First Grade

8–10 Days

In this unit, students learn and practice efficient counting strategies. They use connecting cubes, connecting links, and number lines as tools for counting and comparing numbers, and they make connections between these representations. Students use the counting strategies to solve addition problems. In the last lesson, students begin to collect and record data on a data table for the type of sky each day.

Focus on Major Work ⁱ	
1.NT.B.A	Extend the counting sequence.
1.MD.A	Measure lengths indirectly and by iterating length units.
Mathematical Practices	
MP1, 2, 4, 5, 6	

Unit 2: Exploring Shapes

9–11 Days

Students identify, analyze, and describe shapes in their environment. They describe and compare and contrast shapes using properties of two-dimensional shapes. Students then use those properties to compose and decompose hexagons and irregular shapes.

Additional Work	
1.G.A	Reason with shapes and their attributes.
Mathematical Practices	
MP1, 3, 4, 5, 6, 7	

Unit 3: Pennies, Pockets, and Parts

13–14 Days

Students extend their work with numbers to partition numbers, i.e., identifying parts of a whole. Students count the pockets on their clothing and arrange pennies into pockets to set the context for composing and decomposing numbers. They also model these partitions using ten frames, connecting cubes, tallies, number lines, and number sentences. These models help students visualize numbers using the benchmarks five and ten. Students also invent strategies to solve and represent addition problems.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.OA.C	Add and subtract with 20.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
Supporting Work	
1.MD.C	Represent and interpret data.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7	

Unit 4: Adding to Solve Problems

7–8 Days

Students interpret addition situations in terms of “parts” and “wholes.” Students represent these addition situations with number sentences, ten frames, counters, and as hops on the number line. Students also gain visual number sense of numbers while identifying even and odd numbers.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.OA.C	Add and subtract with 20.
1.OA.D	Work with addition and subtraction equations.
1.NTB.A	Extend the counting sequence.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7, 8	

Unit 5: Grouping and Counting

10–12 Days

In this unit, students strengthen their number sense about tens and ones while grouping and counting objects by twos, fives, and tens. Students skip count by fives after trading pennies for nickels, and they group pennies by fives and count on to then find the value of a set of coins. Within the context of the story, *The Doorbell Rang* by Pat Hutchins, students divide a collection of objects into groups of a given size and count the leftovers. In the investigation in Lesson 5 Colors, students are introduced to the TIMS Laboratory Method, a process similar to one used regularly by scientists—the scientific method. Students practice sorting and sampling while applying their grouping and skip-counting skills. They consider a sample and use tools such as data tables and graphs to help them make predictions and generalizations.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.OA.C	Add and subtract with 20.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
Supporting Work	
1.MD.C	Represent and interpret data.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7	

Unit 6: Add and Subtract to Solve Problems

15–18 Days

Students summarize their invented strategies for adding sums to 10 by solving a variety of problems (join, take away, compare). Students then make the connections between addition and subtraction and find the facts in the related fact family. This unit also marks the start of the systematic practice and assessment of the addition facts with sums to 10.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.OA.B	Understand and apply properties of operations and the relationship between addition and subtraction.
1.OA.C	Add and subtract with 20.
1.OA.D	Work with addition and subtraction equations.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7, 8	

Unit 7: Group and Count to Measure Length

12–16 Days

Students apply their grouping and counting skills to measure the length of a variety of objects using nonstandard units (e.g., connecting links) and make the transition to using standard units (inches). In the Rolling Along with Links lab, students have authentic reasons to measure the distances toy cars roll and concrete models to use when comparing measurements. Students practice good measurement techniques and learn that controlled variables keep everything “fair.”

Focus on Major Work	
1.OA.C	Add and subtract with 20.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
1.MD.A	Measure lengths indirectly and by iterating length units.
Supporting Work	
1.MD.C	Represent and interpret data.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7	

Unit 8: Count and Add to Measure Area

5–7 Days

Students describe another measurable attribute, area. Students first measure and estimate the area of clouds with pennies. They then find the area of rectangles and decide whether different shapes can have the same area in the “Goldilocks and the Three Rectangles” story. Students then try to discover more efficient counting strategies to find the area of other shapes. In the last lesson, students compare and order quantities and use symbols to show those comparisons.

Focus on Major Work	
1.OA.C	Add and subtract with 20.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
1.MD.A	Measure lengths indirectly and by iterating length units.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6	

Unit 9: Repeating and Growing Patterns

12–16 Days

Students explore patterns in this unit. In Lesson 1, students collect, record, and analyze winter weather data and compare patterns to the patterns they found in the fall weather data collected in Unit 1. Students then look for patterns in the addition facts while analyzing an Addition Facts I Know chart introduced in Lesson 2. Students then identify, describe, and extend growing and repeating patterns that are represented with drawings, number lines, and the 100 Chart. They use these patterns to build number sense and make connections to number operations. Students then extend this use of pattern by composing shapes with smaller shapes along lines of symmetry. In the last lesson, students look for patterns on the face of an analog clock and tell time to the nearest hour using a one-handed analog clock.

Focus on Major Work	
1.OA.C	Add and subtract with 20.
1.OA.D	Work with addition and subtraction equations.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
Supporting Work	
1.MD.C	Represent and interpret data.
Additional Work	
1.MD.B	Tell and write time.
1.G.A	Reason with shapes and their attributes.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7, 8	

Unit 10: Group by Tens

12–17 Days

Students investigate two major place value ideas in this unit. Students group objects by tens to count them and the leftover ones. Students also connect the groups of tens (4 tens and 2 ones), their names (forty-two), and standard symbols (42).

Focus on Major Work	
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
1.NTB.C	Use place value understanding and properties of operations to add and subtract.
Supporting Work	
1.MD.C	Represent and interpret data.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7	

Unit 11: Look at 100

11–13 Days

Students focus on the number 100 and multiples of 5 and 10 as they explore number relationships in a variety of contexts. They use different tools such as coins, links, connecting cubes, and the 100 Chart to “see” the number 100 and to solve addition and subtraction problems. Students identify the minute hand on an analog clock and use the hour and minute hands to tell and write the time to the nearest half hour.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.OA.C	Add and subtract with 20.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
1.NTB.C	Use place value understanding and properties of operations to add and subtract.
1.MD.A	Measure lengths indirectly and by iterating length units.
Supporting Work	
1.MD.C	Represent and interpret data.
Additional Work	
1.MD.B	Tell and write time.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6	

Unit 12: Think About Addition and Subtraction

16–23 Days

Students invent and explore strategies for solving the addition facts that have sums between 11 and 20. Students learn how to visualize and learn the doubles and near doubles facts. Students also learn how to break apart the addends to make ten. These strategies help students develop fluency with the math facts with sums larger than 10.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.OA.B	Understand and apply properties of operations and the relationship between addition and subtraction.
1.OA.C	Add and subtract with 20.
1.OA.D	Work with addition and subtraction equations.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6, 7	

Unit 13: Cubes, Volume, and Repeated Addition

9–12 Days

Students group and count cubes to find the volume of buildings, towers, and cubic animals to extend their understanding of partitioning numbers into groups to add. This grouping and partitioning also creates an opportunity to use a variety of reasoning strategies including repeated addition. Students also explore ways to represent those partitions with number sentences, cube models, and descriptions. Students are introduced to reading time to the nearest hour and half hour on a digital clock. They match the time shown on an analog clock to the time on a digital clock.

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
Additional Work	
1.MD.B	Tell and write time.
Mathematical Practices	
MP1, 2, 3, 4, 6, 7	

Unit 14: Arithmetic Problems in Stories

11–14 Days

Students extend their ways of thinking about addition and subtraction to problems with larger numbers. Students also use their prior knowledge of addition and skip counting to solve problems involving repeated addition (multiplication) and subtraction (division).

Focus on Major Work	
1.OA.A	Represent and solve problems involving addition and subtraction.
1.NT.B.C	Use place value understanding and properties of operations to add and subtract.
Supporting Work	
1.MD.C	Represent and interpret data.
Mathematical Practices	
MP1, 2, 3, 4, 5, 7, 8	

Unit 15: Pieces and Parts

9–10 Days

Students represent and describe fractions (halves, fourths, and eighths) by partitioning shapes into two, four, and eight equal shares. They learn that decomposing a shape into more equal shares creates smaller shares. Students learn that a fraction represents a part of a whole and that each fractional part must be equal in size but does not need to be the same shape.

Additional Work	
1.G.A	Reason with shapes and their attributes.
Mathematical Practices	
MP1, 2, 3, 4, 6	

Unit 16: Explore Three-Dimensional Shapes

6 Days

Students explore three-dimensional shapes found in their everyday environment: cylinders, rectangular prisms (boxes and cubes), and spheres. As they explore, describe, compare, contrast, and classify three-dimensional shapes, students begin to identify properties of geometric solids.

Additional Work	
1.G.A	Reason with shapes and their attributes.
Mathematical Practices	
MP3, 4, 5, 7	

Unit 17: To 100 and Beyond

10–15 Days

Students focus on developing number sense for larger numbers up to 200. They practice estimation, and grouping and counting strategies to find the actual quantities of a collection of objects. Students use counters, number lines, and number charts to represent two- and three-digit numbers. They extend familiar mental math strategies for adding ones ($4 + 2$) and tens ($40 + 20$) to adding multiples of 100 ($400 + 200$).

Focus on Major Work	
1.OA.B	Understand and apply properties of operations and the relationship between addition and subtraction.
1.OA.C	Add and subtract with 20.
1.NTB.A	Extend the counting sequence.
1.NTB.B	Understand place value.
1.NTB.C	Use place value understanding and properties of operations to add and subtract.
Mathematical Practices	
MP1, 2, 3, 4, 5, 6	

¹ The *K–8 Publisher’s Criteria for the Common Core State Standards for Mathematics* identifies every cluster of standards as being either major work, supporting work, or additional work for its respective grade level. It calls for at least 65% of time to be devoted to the major work of the grade with supporting work and additional work engaging students in the major work of the grade where appropriate. See <http://achievethecore.org/shifts-mathematics> for more information.