

FIRST GRADE MATHEMATICS CURRICULUM

Course 50110

First grade students will be learning about addition and subtraction as well as the relation between the operations. They will continue their counting to numbers past 100 and begin to learn about place value. They will learn to order lengths and to tell time to the nearest half hour using both digital and analog clocks. First graders also begin learn to represent data in charts and tables. Also, they will learn to distinguish between common three-dimensional shapes and to use their understanding of fractions to divide shapes into halves.

FIRST GRADE MATHEMATICS OUTLINE:

Goals	Skills	Summative Assessments	Time Frame	Main Resources
<ul style="list-style-type: none">• Understand and apply properties of operations and the relationship between addition and subtraction.• Order lengths and measure them both indirectly and by repeating length units.• Compose and distinguish between two- and three-dimensional shapes based on their attributes.• Represent and interpret data using tables/charts.	<ul style="list-style-type: none">• Represent and solve problems involving addition and subtraction within 20.• Tell and write time to the nearest half hour using both analog and digital clocks.	Mid-year and End of Year Benchmark Assessments	1-year	Everyday Math 4 th ed.

FIRST GRADE MATHEMATICS MAP:

TIME FRAME	BIG IDEAS	CONCEPTS	ESSENTIAL QUESTIONS	STANDARDS	OBJECTIVES	DIFFERENTIATION	ASSESSMENT
Unit 1 (Weeks 1-4)	<ul style="list-style-type: none"> Numbers can be shown, seen, and used in several ways that students use in everyday life. 	<ol style="list-style-type: none"> Investigating the number line Mathematical tools Number writing One more and one less Comparing Tally counts Probability Calendar Temperature and weather Number stories 	<ul style="list-style-type: none"> How is mathematics used to quantify, compare, represent, and model numbers? 	<p>CC.2.1.1.B.1 Extend the counting sequence to read and write numerals to represent objects.</p> <p>CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.</p> <p>CC.2.2.1.A.2 Understand and apply properties of operations and the relationship between addition and subtraction.</p>	<ul style="list-style-type: none"> Describe numbers using a comparison vocabulary. Show numbers using different representations such as drawings and tally marks. Count on from a smaller to a larger number. Demonstrate the use of numbers through everyday tools such as a thermometer or calendar. Solve simple number stories using a variety of strategies. 	Use of manipulatives	<p>Informal observations</p> <p>Written assessments</p>
Unit 2 (Weeks 5-7)	<ul style="list-style-type: none"> Patterns are shown numerically, visually, and concretely while helping to solve problems. 	<ol style="list-style-type: none"> Number grids Complements of 10 Labels for numbers Analog clocks Telling time Money Number models (addition/subtraction) Number stories 	<ul style="list-style-type: none"> How can mathematics support effective communication? 	<p>CC.2.1.1.B.1 Extend the counting sequence to read and write numerals to represent objects.</p> <p>CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p> <p>CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.</p>	<ul style="list-style-type: none"> Calculate and compare the values of collections of coins. Use a number grid to solve addition and subtraction problems. Show and tell time to the nearest hour. Count by 1s, 2s, 5s, and 10s. Utilize tally charts to answer problems. 	Use of manipulatives	<p>Informal observations</p> <p>Written assessments</p>

				CC.2.2.1.A.2 Understand and apply properties of operations and the relationship between addition and subtraction.			
Unit 3 (Weeks 8-11)	<ul style="list-style-type: none"> Patterns are shown numerically, visually, and concretely while helping to solve problems. 	<ol style="list-style-type: none"> Visual patterns Even and odd number patterns Number-grid patterns Number line Telling time to the half-hour Problems using frames and arrows Counting with a calculator Counting money Line plots Domino addition 	<ul style="list-style-type: none"> How can recognizing repetition or regularity assist in solving problems more efficiently? 	<p>CC.2.1.1.B.1 Extend the counting sequence to read and write numerals to represent objects.</p> <p>CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p>	<ul style="list-style-type: none"> Count forward by 2s and 5s to 100 and backward by 1s from any number less than 100. Solve problems involving the addition and subtraction of one and two-digit numbers. Calculate the value of a combination of coins. Solve problems using patterns. Show and tell time on an analog clock. 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>
Unit 4 (Weeks 12-14)	<ul style="list-style-type: none"> All objects can be measured using standard and/or nonstandard units. 	<ol style="list-style-type: none"> Nonstandard linear measures Personal/standard foot Rulers/tape measures Telling time to the quarter-hour Timelines Number scrolls Fact power 	<ul style="list-style-type: none"> How can measurements be estimated or analyzed using appropriate strategies and tools? 	<p>CC.2.4.1.A.1 Order lengths and measure them both indirectly and by repeating length units.</p> <p>CC.2.4.1.A.2 Tell and write time to the nearest half hour using both analog and digital clocks.</p>	<ul style="list-style-type: none"> Count forward and backward by 2s from any number less than 100. Order whole numbers through 100s. Solve number stories and demonstrate parts and total situations. Estimate and compare lengths of objects. Make exchanges between coins. Show and tell time on an analog clock to the nearest quarter-hour. Solve problems involving simple functions. 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>
Unit 5	<ul style="list-style-type: none"> Number stories 	<ol style="list-style-type: none"> Place-values 	<ul style="list-style-type: none"> How can number 	CC.2.1.1.B.1	<ul style="list-style-type: none"> Write number 	Use of	Informal

(Weeks 15-18)	help to foster links between verbal representations and concrete, pictorial, and number-model representations.	<ol style="list-style-type: none"> 2. Relations (symbols) 3. Addition with 2-digit numbers 4. Number stories 5. Turn-around facts 6. Applying mathematical rules 	<p>patterns help us understand and describe numerical relationships?</p> <ul style="list-style-type: none"> • How can mathematics support effective communication? 	<p>Extend the counting sequence to read and write numerals to represent objects.</p> <p>CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p> <p>CC.2.2.1.A.2 Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>CC.2.4.1.A.4 Represent and interpret data using tables/charts</p>	<p>sentences using symbols.</p> <ul style="list-style-type: none"> • Ask and answer questions and draw conclusions based on data representations. • Solve addition and subtraction of whole numbers. • Compare whole numbers through 100. • Identify fact families with emphasis on turn-around facts. 	<p>manipulatives</p> <p>Small groups</p>	<p>observations</p> <p>Written assessments</p>
Unit 6 (Weeks 19-21)	<ul style="list-style-type: none"> • Same sums and related differences can be found through the utilization of fact families and their turn-around facts. 	<ol style="list-style-type: none"> 1. Addition/subtraction fact tables 2. Equivalent names 3. Fact families/ fact triangles 4. Centimeter 5. Quarters 6. Digital clocks 7. Data landmarks 	<ul style="list-style-type: none"> • How are addition and subtraction related? 	<p>CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p> <p>CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.</p> <p>CC.2.2.1.A.2</p>	<ul style="list-style-type: none"> • Find equivalent names for numbers using concrete materials and pictures. • Estimate and compare lengths of objects. • Demonstrate and describe change-to-more and change-to-less. • Apply the commutative property of addition. 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>

				<p>Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>CC.2.4.1.A.1 Order lengths and measure them both indirectly and by repeating length units.</p> <p>CC.2.4.1.A.2 Tell and write time to the nearest half hour using both analog and digital clocks.</p> <p>CC.2.4.1.A.4 Represent and interpret data using tables/charts</p>			
Unit 7 (Weeks 22-23)	<ul style="list-style-type: none"> • Everyday objects take the shape of many geometric figures and are specific in the attributes that they obtain. 	<ol style="list-style-type: none"> 1. Attribute rules 2. Pattern-block and shape templates 3. Making polygons 4. Spheres, cylinders, and rectangular prisms 5. Pyramids, cones, and cubes 6. Symmetry 	<ul style="list-style-type: none"> • How can composing and decomposing shapes help us understand part-whole relationships? 	<p>CC.2.3.1.A.1 Compose and distinguish between two- and three-dimensional shapes based on their attributes.</p>	<ul style="list-style-type: none"> • Identify and describe plain and solid figures. • Compare and contrast solid figures. • Create line-symmetric shapes. • Sort plain shapes by size, shape, and color. 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>
Unit 8 (Weeks 24-26)	<ul style="list-style-type: none"> • Parts of a whole can be described when naming fractions and making change with coins to a dollar. 	<ol style="list-style-type: none"> 1. Dollars 2. Place value 3. Making change 4. Equal shares 5. Fractions 6. Sharing pennies 	<ul style="list-style-type: none"> • How can data be organized and represented to provide insight into the relationship between quantities? 	<p>CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p> <p>CC.2.3.1.A.2 Use the</p>	<ul style="list-style-type: none"> • Read, write, and represent whole numbers while identifying digits and express their values. • Use drawings to represent and explain fractions. • Show equivalent names for numbers. • Use and explain strategies for solving number stories and 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>

				<p>understanding of fractions to partition shapes into halves and quarters.</p> <p>CC.2.4.1.A.4 Represent and interpret data using tables/charts</p>	<p>calculate and compare values of combinations of coins.</p>		
<p>Unit 9 (Weeks 27-28)</p>	<ul style="list-style-type: none"> Patterns can be found when adding and subtracting two-digit numbers using the number grid and when comparing fractional parts. 	<ol style="list-style-type: none"> Tens and ones patterns on number grid Adding and subtracting tens Adding and subtracting two-digit numbers Fractional parts of a whole Comparing fractions Equivalent fractions 	<ul style="list-style-type: none"> How can recognizing repetition or regularity assist in solving problems more efficiently? 	<p>CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p> <p>CC.2.2.1.A.2 Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>CC.2.3.1.A.2 Use the understanding of fractions to partition shapes into halves and quarters.</p> <p>CC.2.4.1.A.4 Represent and interpret data using tables/charts</p>	<ul style="list-style-type: none"> Read, write, and represent with base-10 blocks whole number through hundreds. Use drawings to represent and explain simple fractions. Extend numeric patterns and use them to solve problems. 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>
<p>Unit 10 (Weeks 29-30)</p>	<ul style="list-style-type: none"> Recalling and applying all concepts to develop proficiency with mathematical skills. 	<ol style="list-style-type: none"> Finding, reading, and recording data Telling time Showing money amounts Mental math Geometry review Thermometers and 	<ul style="list-style-type: none"> In what ways can students effectively master mathematical concepts? 	<p>CC.2.1.1.B.1 Extend the counting sequence to read and write numerals to represent objects.</p> <p>CC.2.1.1.B.2 Use place value</p>	<ul style="list-style-type: none"> Name numbers and work with place value. Compare and order whole numbers up to 1,000. Solve addition and subtraction 	<p>Use of manipulatives</p> <p>Small groups</p>	<p>Informal observations</p> <p>Written assessments</p>

		<p>temperature 7. Place value</p>		<p>concepts to represent amounts of tens and ones and to compare two digit numbers.</p> <p>CC.2.1.1.B.3 Use place value concepts and properties of operations to add and subtract within 100.</p> <p>CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.</p> <p>CC.2.2.1.A.2 Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>CC.2.3.1.A.1 Compose and distinguish between two- and three-dimensional shapes based on their attributes.</p> <p>CC.2.3.1.A.2 Use the understanding of fractions to partition shapes into halves and quarters.</p> <p>CC.2.4.1.A.1 Order lengths and measure them both indirectly and by repeating length units.</p> <p>CC.2.4.1.A.2 Tell and write time to the nearest half hour using both analog</p>	<p>problems and calculate and compare coins.</p> <ul style="list-style-type: none"> • Use graphs to answer simple questions. • Make exchanges between coins. • Solve number-grid puzzles. • Write, solve, and explain number sentences. 		
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				and digital clocks. CC.2.4.1.A.4 Represent and interpret data using tables/charts			
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