

SCOPE AND SEQUENCE CHART

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Addition and Subtraction of Whole Numbers	Multiplication and Division of Whole Numbers	Fraction Equivalents and Operations with Fraction	Fractions and Decimals	Measurement	Geometry
Approximately 7 Weeks	Approximately 8 Weeks	Approximately 8 Weeks	Approximately 4 Weeks	Approximately 4 Weeks	Approximately 1 Week
MGSE4.NBT.1*	MGSE4.OA.2* MGSE4.OA.1	MGSE4.NF.1*	MGSE4.NF.5* MGSE4.NF.6	MGSE4.MD.1*	MGSE4.G.2* MGSE4.G.1 MGSE4.G.3
MGSE4.NBT.2*	MGSE4.OA.3*	MGSE4.NF.2	MGSE4.NF.7*	MGSE4.MD.2*	
MGSE4.NBT.3*	MGSE4.NBT.5* MGSE4.OA.4 MGSE4.OA.5	MGSE4.NF.3* MGSE4.MD.4		MGSE4.MD.3* MGSE4.MD.8	
MGSE4.NBT.4*	MGSE4.NBT.6*	MGSE4.NF.4*		MGSE4.MD.5* MGSE4.MD.6 MGSE4.MD.7	

Key: G= Geometry, MD=Measurement and Data, NBT= Number and Operations in Base Ten, NF = Number and Operations, Fractions, OA = Operations and Algebraic Thinking

***Prioritized Standards:** Grade level standards of highest priority have been identified. Pacing has been modified to allow sufficient time for in-depth instruction and practice.

Supporting Standards: Key concepts and skills, from these grade level standards, will be used to support the Prioritized Standards.

Prerequisite Concepts and Skills: Prioritized concepts and skills, from the previous grade level standards, which are most important for success with the current grade-level content, will be integrated, where they best fit, to address learning loss.

Unit Name	Unit Description	Georgia Standards of Excellence	Unit Duration
Unit 1 Addition and Subtraction of Whole Numbers	In this unit students will: • Read numbers correctly through the millions • Write numbers correctly through millions in standard form • Write numbers correctly through millions in expanded form • Identify the place value name for multi-digit whole numbers • Identify the place value locations for multi-digit whole numbers • Round multi-digit whole numbers to any place • Fluently solve multi-digit addition and subtraction problems using the standard algorithm	<u>Generalize place value understanding for multi-digit whole numbers.</u> MGSE4.NBT.1 Recognize that in a multi-digit whole number, a digit in any one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division. MGSE4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons. MGSE4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place. <u>Use place value understanding and properties of operations to perform multi-digit arithmetic.</u> MGSE4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm. Prerequisite Concepts and Skills: • (MGSE3.NBT.2) Add and subtract within 1000	Approximately 7 Weeks

Unit 2 Multiplication and Division of Whole Numbers	In this unit students will: • Solve multi-step problems using the four operations • Use estimation to solve multiplication and division problems • Find factors and multiples • Identify prime and composite numbers • Generate patterns	<u>Use the four operations with whole numbers to solve problems.</u> MGSE4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison. Use drawings and equations with a symbol or letter for the unknown number Incorporated Grade-Level Concepts and/or Skills: (MGSE4.OA.1) • Interpret a multiplication equation as a comparison • Represent verbal statements of multiplicative comparisons as equations Prerequisite Concepts and Skills: • (MGSE3.OA.1) Interpret products of whole number Prerequisite Concepts and Skills: • (MGSE3.OA.3) Use multiplication and division within 100 to solve word problems <u>Use place value understanding and properties of operations to perform multi-digit arithmetic.</u> MGSE4.OA.3 Solve multistep word problems with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a symbol or letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Prerequisite Concepts and Skills: • (MGSE3.OA.8) Solve two-step word problems with all four operations.	Approximately 8 Weeks
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Use place value understanding and properties of operations to perform multi-digit arithmetic.

MGSE4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Incorporated Grade-Level Concepts and/or Skills:

- **(MGSE4.OA.4) Know prime and composite numbers and factor pairs of whole numbers**
- **(MGSE4.OA.5) Generate a number pattern that follow a rule**

Prerequisite Concepts and Skills:

- **(MGSE3.NBT.3) Multiply one-digit whole numbers by multiples of 10**
- **(MGSE3.OA.7) Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations**

MGSE4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Unit 3 Fraction Equivalents and Operations with Fraction	In this unit students will: • Understand representations of simple equivalent fractions • Compare fractions with different numerators and different denominators • Identify visual and written representations of fractions • Understand representations of simple equivalent fractions • Understand the concept of mixed numbers with common denominators to 12 • Add and subtract fractions with common denominators • Add and subtract mixed numbers with common denominators • Convert mixed numbers to fractions greater than one • Understand a fraction $\frac{a}{b}$ as “a multiple of $\frac{1}{b}$.” (for example: model the product of $\frac{3}{4}$ as $3 \times \frac{1}{4}$) • Use understanding of unit fraction to multiply a fraction by a whole number. • Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.	<u>Extend understanding of fraction equivalence and ordering.</u> MGSE5.NF.1 Add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators. Prerequisite Concepts and Skills: • (MGSE4.NF.1) Generate equivalent fractions and explain why two or more fractions are equivalent • (MGSE4.NF.3c) Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. MGSE4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by using visual fraction models, by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions. Prerequisite Concepts and Skills: • (MGSE3.NF.3) Generate simple equivalent fractions <u>Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</u> MGSE4.NF.3 Understand a fraction $\frac{a}{b}$ with a numerator > 1 as a sum of unit fractions $\frac{1}{b}$.	Approximately 8 Weeks
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	• Multiply a whole number by a fraction	- Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. - Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$. - Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. - Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. Incorporated Grade-Level Concepts and/or Skills: ▪ (MGSE4.MD.4) Solve addition and subtraction of fractions using information presented in the line plots Prerequisite Concepts and Skills: • (MGSE3.NF.1/3.NF.2) Meaning of a unit fraction, especially by partitioning a whole on the number line diagram MGSE4.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number e.g., by using a visual such as a number line or area model. - Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. For example, use a visual fraction model to represent	
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		$5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$. b) Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.) c) Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? Prerequisite Concepts and Skills: (MGSE3.NF.1/3.NF.2) Meaning of a unit fraction, especially by partitioning a whole on the number line diagram	
Unit 4 Fractions and Decimals	In this unit, students will: - Express fractions with denominators of 10 and 100 as decimals - Understand the relationship between decimals and the base ten system - Understand decimal notation for fractions	<u>Understand decimal notation for fractions, and compare decimal fractions.</u> MGSE4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.22 For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$. Incorporated Grade-Level Concepts and/or Skills: (MGSE4.NF.6) Use decimal notation for fractions with denominators 10 or 100	Approximately 4 Weeks

	• Use fractions with denominators of 10 and 100 interchangeably with decimals • Express a fraction with a denominator 10 as an equivalent fraction with a denominator 100 • Add fractions with denominators of 10 and 100 (including adding tenths and hundredths) • Compare decimals to hundredths by reasoning their size • Understand that comparison of decimals is only valid when the two decimals refer to the same whole • Justify decimals comparisons using visual models	MGSE4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.	
Unit 5 Measurement	In this unit students will: • Investigate what it means to measure length, weight, liquid volume, time, and angles • Understand how to use standardized tools to measure length, weight, liquid volume, time, and angles • Understand how different units within a system (customary and metric) are related to each other • know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; L, ml; hr., min, sec.	<u>Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.</u> MGSE4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr., min, sec. a. Understand the relationship between gallons, cups, quarts, and pints. b. Express larger units in terms of smaller units within the same measurement system. c. Record measurement equivalents in a two-column table. MGSE4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that	Approximately 4 Weeks

	• Solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals • Apply the area and perimeter formulas for rectangles in real world and mathematical problems • Decompose rectilinear figures into non-overlapping squares and rectangles to find the total area of the rectilinear figure • Recognize angles as geometric shapes that are formed when two rays share a common endpoint, and understand concepts of angle measurement • Measure angles in whole number degrees using a protractor • Recognize angle measurement as additive and when an angle is decomposed into nonoverlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.	require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. MGSE4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. Incorporated Grade-Level Concepts and/or Skills: • (MGSE4.MD4) Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts <u>Geometric Measurement: understand concepts of angle and measure angles.</u> MGSE4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a) An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles. b) An angle that turns through n one-degree angles is said to have an angle measure of n degrees. Incorporated Grade-Level Concepts and/or Skills: • (MGSE4.MD.6) Measure whole number degrees using a protractor	
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		(MGSE4.MD.7) Find the angle measure as the sum of the angle measures of the parts	
Unit 6 Geometry	In this unit, students will: - Identify points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines in a two-dimensional figures - Identify and classify angles and identify them in two-dimensional figures - Distinguish between parallel and perpendicular lines and use them in geometric figures - Identify differences and similarities among two dimensional figures based on the absence or presence of characteristics such as parallel or perpendicular lines and angles of a specified size - Sort objects based on parallelism, perpendicularity, and angle types - Recognize a right triangle as a category for classification - Identify lines of symmetry and classify line-symmetric figures	<u>Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</u> MGSE4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. Incorporated Grade-Level Concepts and/or Skills: (MGSE4.G.1) Identify points, lines, line segments, rays, angles, and perpendicular and parallel lines in two-dimensional figures. (MGSE4.G.3) Recognize a line of symmetry for a two-dimensional figure	Approximately 1 week