Georgia Standards of Excellence
3.2 Curriculum Map

Georgia Standards of Excellence: Curriculum Map							
3rd Grade Unit 4	3rd Grade Unit 5	3rd Grade Unit 6	4th Grade Unit 1	4th Grade Unit 2	4th Grade Unit 3	4th Grade Unit 4	
Geometry	**Representing and Comparing Fractions**	**Measurement**	**Whole Numbers, Place Value and Rounding in Computation**	**Multiplication and Division of Whole Numbers**	**Fraction Equivalents**	**Operations with Fractions**	**Show What We Know**
4-5 weeks	**4-5 weeks**	**4-5 weeks**	**4-5 weeks**	**5-6 weeks**	**4-5 weeks**	**4-5 weeks**	**Up to 6 weeks**
MGSE3.G.1 **MGSE3.G.2** **MGSE3.MD.3** **MGSE3.MD.4** **MGSE3.MD.7** **MGSE3.MD.8**	**MGSE3.NF.1** **MGSE3.NF.2** **MGSE3.NF.3** **MGSE3.MD.3** **MGSE3.MD.4**	**MGSE3.MD.1** **MGSE3.MD.2** **MGSE3.MD.3** **MGSE3.MD.4**	**MGSE4.NBT.1** **MGSE4.NBT.2** **MGSE4.NBT.3** **MGSE4.NBT.4** **MGSE4.OA.3** **MGSE4.MD.2**	**MGSE4.OA.1** **MGSE4.OA.2** **MGSE4.OA.3** **MGSE4.OA.4** **MGSE4.OA.5** **MGSE4.NBT.5** **MGSE4.NBT.6** **MGSE4.MD.2** **MGSE4.MD.8**	**MGSE4.NF.1** **MGSE4.NF.2** **MGSE4.MD.2**	**MGSE4.NF.3** **MGSE4.NF.4** **MGSE4.MD.2**	**ALL**

NOTE: Mathematical standards are interwoven and should be addressed throughout the year in as many different units and tasks as possible in order to stress the natural connections that exist among mathematical topics.

Grades 3-5 Key: G= Geometry, MD=Measurement and Data, NBT= Number and Operations in Base Ten, NF = Number and Operations, Fractions, OA = Operations and Algebraic Thinking.

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Standards for Mathematical Practice

1 Make sense of problems and persevere in solving them. **2** Reason abstractly and quantitatively. **3** Construct viable arguments and critique the reasoning of others. **4** Model with mathematics.	**5** Use appropriate tools strategically. **6** Attend to precision. **7** Look for and make use of structure. **8** Look for and express regularity in repeated reasoning.

3rd Unit 4	3rd Unit 5	3rd Unit 6	4th Unit 1
Geometry	**Representing and Comparing Fractions**	**Measurement**	**Whole Numbers, Place Value and Rounding in Computation**
Reason with shapes and their attributes. **MGSE3.G.1** Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. **MGSE3.G.2** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.* **Represent and interpret data.** **MGSE3.MD.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.* **MGSE3.MD.4** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data	**Develop understanding of fractions as numbers.** **MGSE3.NF.1** Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into *b* equal parts (unit fraction); understand a fraction $\frac{a}{b}$ as the quantity formed by *a* parts of size $\frac{1}{b}$. *For example,* $\frac{3}{4}$ *means there are 3* $\frac{1}{4}$ *parts, so* $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$. **MGSE3.NF.2** Understand a fraction as a number on the number line; represent fractions on a number line diagram. **a.** Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size $\frac{1}{b}$. Recognize that a unit fraction $\frac{1}{b}$ is located $\frac{1}{b}$ whole unit from 0 on the number line. **b.** Represent a non-unit fraction $\frac{a}{b}$ on a number line diagram by marking off *a* lengths of $\frac{1}{b}$ (unit fractions) from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its	**Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.** **MGSE3.MD.1** Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram, drawing a pictorial representation of a clock face, etc. **MGSE3.MD.2** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[1] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[2] **Represent and interpret data.** **MGSE3.MD.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.* **MGSE3.MD.4** Generate measurement data by measuring lengths using rulers marked with	**Generalize place value understanding for multi-digit whole numbers.** **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 ÷ 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. **Use place value understanding and properties of operations to perform multi-digit arithmetic.** **MGSE4.NBT.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm. **Use the four operations with whole numbers to solve problems.** **MGSE4.OA.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which

[1] Excludes compound units such as cm^3 and finding the geometric volume of a container.

[2] Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).

by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. **MGSE3.MD.7** Relate area to the operations of multiplication and addition. **a.** Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. **b.** Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. **c.** Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of *a* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning. **d.** Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.** **MGSE3.MD.8** Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	endpoint locates the non-unit fraction $\frac{a}{b}$ on the number line. **MGSE3.NF.3** Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. **Represent and interpret data.** **MGSE3.MD.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.* **MGSE3.MD.4** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters	remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. **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 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.

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4th Unit 2	4th Unit 3	4th Unit 4	
Multiplication and Division of Whole Numbers	**Fraction Equivalents**	**Operations with Fractions**	**Show What We Know**
Use the four operations with whole numbers to solve problems. **MGSE4.OA.1** Understand that a multiplicative comparison is a situation in which one quantity is multiplied by a specified number to get another quantity. a. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. b. Represent verbal statements of multiplicative comparisons as multiplication equations. **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 to represent the problem, distinguishing multiplicative comparison from additive comparison.[3] **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	**Extend understanding of fraction equivalence and ordering.** **MGSE4.NF.1** Explain why two or more fractions are equivalent $\frac{a}{b} = \frac{n \times a}{n \times b}$ ex: $\frac{1}{4} = \frac{3 \times 1}{3 \times 4}$ by using fraction models. Focus attention on how the number and size of the parts differ even though the fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **MGSE4.NF.2** Compare two fractions with different numerators and different denominators, e.g., by using different 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. **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 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.	**Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.** **MGSE4.NF.3** Understand a fraction $\frac{a}{b}$ with a > 1 as a sum of unit fractions $\frac{1}{b}$. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. 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: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. 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. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and	

[3] See Glossary, Table 2.

mental computation and estimation strategies including rounding. **Gain familiarity with factors and multiples.** **MGSE4.OA.4** Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. **Generate and analyze patterns.** **MGSE4.OA.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers.* **Generalize place value understanding for multi-digit whole numbers.** **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. **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. **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 require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement		having like denominators, e.g., by using visual fraction models and equations to represent the problem. **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. a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (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 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × 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?* **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 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.	

quantities using diagrams such as number line diagrams that feature a measurement scale. **MGSE4.MD.8** Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.			