

# GLENCOE CORRELATION

*Mathematics: Applications and Connections, Course 1*

## GEORGIA

Quality Core Curriculum (QCC)  
Course: Sixth Grade Mathematics

Component Strand Course Content Standard	Lesson Reference
<p><b>Strand: Problem Solving</b></p> <p><b>1</b> Solves problems, reasons, and estimates throughout mathematics:</p> <ul style="list-style-type: none"> <li>-Selects and uses problem solving strategies such as reading the problem, drawing a picture or diagram, using trial and error, making a table or chart, looking for patterns, making a simple problem then generalizing, and working backwards, etc.</li> <li>-Selects and uses appropriate tools (such as mental computation, calculators, manipulative materials, paper and pencil, computer) in solving problems.</li> <li>-Uses appropriate estimation strategies (such as breaking numbers apart, compatible numbers, guess and check, clustering, rounding, compensation) to check the reasonableness of results.</li> <li>-Solves nonroutine problems for which the answer is not obvious.</li> <li>-Relates concepts and skills to practical applications.</li> </ul>	<p>1-1, 1-2, 1-3, 1-4, 1-5A, 1-5, 1-5B, 1-6, 1-7A, 1-7, 2-1, 2-2, 2-3, 2-3B, 2-4, 2-5, 2-6, 2-7, 2-7B, 2-8, 2-9, 3-1A, 3-1, 3-2A, 3-2, 3-3, 3-4, 3-5, 3-6A, 3-6, 4-1A, 4-1, 4-2, 4-3A, 4-3, 4-3B, 4-4, 4-4B, 4-5A, 4-5, 4-6A, 4-6, 4-7, 4-8, 4-9, 5-1, 5-2A, 5-2, 5-3A, 5-3, 5-4A, 5-4, 5-4B, 5-5, 5-6, 5-7, 5-8, 5-9, 5-10, 6-1, 6-2, 6-2B, 6-3, 6-4A, 6-4, 6-5, 6-6, 6-7, 7-1, 7-2A, 7-2, 7-3, 7-4, 7-5A, 7-5, 7-6, 7-7, 7-7B, 7-8A, 7-8, 7-8B, 8-1A, 8-1, 8-1B, 8-2, 8-2B, 8-3A, 8-3, 8-4A, 8-4, 8-5, 8-6, 8-7, 9-1, 9-1B, 9-2, 9-3A, 9-3, 9-4A, 9-4, 9-4B, 9-5, 9-6, 9-6B, 10-1A, 10-1, 10-2, 10-3, 10-3B, 10-4, 10-4B, 10-5A, 10-5, 10-6, 10-6B, 11-1, 11-2, 11-3A, 11-3, 11-4, 11-5, 11-6A, 11-6, 11-7, 11-8A, 11-8, 12-1, 12-2, 12-3, 12-4, 12-4B, 12-5A, 12-5, 12-6, 13-1A, 13-1, 13-2A, 13-2, 13-3, 13-3B, 13-4, 13-4B, 13-5</p>
<p><b>2</b> Describes orally and in writing, using the appropriate mathematical vocabulary, mathematical concepts and procedures, such as solving problems or computing.</p>	<p>1-5A, 1-7, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-7B, 2-8, 3-1A, 3-2A, 3-2, 3-4, 3-6, 4-1, 4-2, 4-3A, 4-3, 4-4B, 4-5, 4-6A, 4-6, 4-7, 4-9, 5-1, 5-2A, 5-2, 5-3, 5-4A, 5-4B, 5-6, 5-9, 5-10, 6-4A, 6-6, 6-7, 7-1, 7-2A, 7-5A, 7-7, 7-7B, 8-1A, 8-1, 8-1B, 8-3, 8-4A, 8-4, 9-1, 9-3A, 10-1A, 10-3B, 10-4B, 11-1, 11-2, 11-3A, 11-8A, 12-1, 12-2, 12-4B, 12-5A, 12-6, 13-1A, 13-2A, 13-3, 13-4B,</p>
<p><b>3</b> Uses scientific calculator and computer skills to solve problems, to discover patterns and sequences, to investigate situations and to draw conclusions.</p>	<p>1-4, 1-5B, 1-6, 2-3, 3-6, 4-3B, 5-1, 5-4, 5-7, 5-10, 7-2, 7-4, 7-8B, 8-2B, 10-2, 10-3, 10-6, 10-6B, 13-3B</p>
<p><b>4</b> Uses computer software and applications to research, investigate, and analyze data and to represent this information using charts, tables, graphs, or other presentation forms.</p>	<p>2-3, 4-3B, 7-4, 7-8B, 8-2B, 10-6B</p>

Component Strand Course Content Standard	Lesson Reference
<p><b>Strand: Patterns &amp; Relationships; Algebra</b></p> <p>5 Uses a variable to represent an unknown amount in a mathematical expression or equation (number sentence), and evaluates simple algebraic expressions (e.g., given <math>a + 4</math>. If <math>a = 2</math>, then <math>2 + 4 = 6</math>).</p>	1-5A, 1-5, 1-5B, 1-7, 4-1, 4-3, 6-4, 6-5, 6-6, 7-3, 12-1, 12-2, 12-3, 12-4, 12-4B
<p>6 Uses order of operations to simplify numeric expressions that involve addition and subtraction with and without parenthesis.</p>	1-4, 1-5, 1-5B, 1-6, 4-2
<p>7 Finds the value of or solves for the variable in a simple algebraic equation such as <math>a + 6 = 10</math>.</p>	1-7, 7-2, 7-6, 12-1, 12-2, 12-3
<p>8 Writes and solves a simple one-step equation (number sentence) for a given word problem.</p>	1-7, 12-1, 12-2, 12-3, 12-4, 12-4B
<p><b>Strand: Whole Number Computation; Estimation; Whole Number Operations</b></p> <p>9 Uses addition, subtraction, multiplication, and division (interpreting remainders in context of problem) in computation and problem solving with whole numbers, decimals, fractions, and mixed numbers with like and unlike denominators.</p>	3-6, 4-1A, 4-1, 4-3A, 4-3, 4-5, 4-6A, 4-6, 4-7, 6-3, 6-4, 6-5, 6-6, 7-2A, 7-2, 7-3, 7-4, 7-5A, 7-5, 7-6
<p>10 Performs computations mentally using strategies such as multiples of ten, compatible numbers, compensation, or breaking apart numbers.</p>	1-7, 4-2, 4-4, 4-6, 4-9, 5-9, 6-3, 7-5, 8-2, 8-4, 8-5
<p>11 Computes percent of a number using ratio, proportions, and equations.</p>	8-7
<p><b>Strand: Geometry &amp; Spatial Sense; Measurement</b></p> <p>12 Uses characteristics and properties of lines and line segments to determine relationships between lines.</p>	9-1, 9-3A, 9-4A, 9-4, 9-5, 9-6, 9-6B, 11-8A, 11-8
<p>13 Identifies the component parts of an angle, its vertex, and sides or rays; and classifies angles as acute, right, obtuse, or straight.</p>	9-1
<p>14 Identifies lines of symmetry.</p>	9-5
<p>15 Identifies face, edge, and vertex of a geometric solid.</p>	9-4B, 10-4

Component Strand Course Content Standard	Lesson Reference
16 Identifies congruent and similar geometric figures.	9-6
17 Identifies effects of basic transformations on geometric shapes.	9-6B, 11-8A, 11-8
18 Contrasts and classifies simple plane and solid geometric figures by their properties.	9-4A, 9-4, 9-4B, 10-4, 10-4B
19 Locates, names, and graphs an ordered pair of numbers on a coordinate plane.	2-9, 11-7, 11-8
20 Identifies terms associated with a circle and finds the circumference using pi.	7-4
21 Selects and uses appropriate customary and metric units of measure for length (including perimeter), area, volume, capacity, time, temperature, and weight/mass.	3-2A, 3-2, 4-4, 4-4B, 4-8, 4-9, 5-6, 6-7, 7-7, 7-7B, 7-8A, 10-1, 10-2, 10-3, 10-5, 10-6, 13-3
22 Measures angles using a protractor.	9-1, 9-2, 10-3B
23 Converts from one metric unit to another metric unit, and from one customary unit to another customary unit (length, capacity, weight/mass).	4-9, 7-7
24 Estimates measures using strategies such as walking off or pacing, rough comparison, and reference point for length or capacity, and evaluates reasonableness of results.	3-2, 4-8, 9-2
25 Develop and apply formulas for area, perimeter, and volume.	4-4, 4-4B, 10-1A, 10-1, 10-2, 10-3, 10-5, 10-6
<b>Strand: Number Sense &amp; Numeration; Fractions &amp; Decimals</b>	
26 Reads and writes numbers through trillions, in both numerical and word forms.	See Glencoe <i>Mathematics: Applications and Connections, Course 2, Lesson 2-9.</i>
27 Writes numerals, up to the thousands, in expanded and standard notation interchangeably.	See Glencoe <i>Mathematics: Applications and Connections, Course 2, Lesson 2-9.</i>
28 Identifies place value for whole numbers (trillions) and decimals (millionths).	3-1
29 Uses concrete and visual models to represent parts of a whole for fractions, decimals, and percents.	2-4, 3-1A, 3-1, 5-4A, 5-4, 5-5, 5-8, 8-4A, 8-4, 10-3B

Component Strand Course Content Standard	Lesson Reference
30 Uses fractions, decimals, and percents interchangeably (e.g., $\frac{1}{4}$ , .25, 25%).	3-1, 5-9, 5-10, 8-4A, 8-4, 8-5
31 Rounds fractions and decimals to the nearest whole number, and rounds whole numbers and decimals to the nearest million(th).	3-4, 3-6, 4-1, 4-3, 4-5, 4-6, 6-1, 6-2, 6-3, 6-5, 6-6, 7-1, 7-2, 7-3, 7-6
32 Changes improper fractions to mixed numbers and changes mixed numbers to improper fractions.	5-5
33 Converts a decimal to a whole number multiplied by a power of ten (scientific notation).	3-1
34 Identifies and uses symbols of equality and inequality.	1-7, 3-3, 3-6, 4-1, 4-4, 4-9, 5-4, 5-8, 5-9, 6-5, 7-2, 7-3, 7-5, 7-6, 7-7, 8-2, 8-4, 8-5, 9-2, 10-1, 10-2, 10-3, 10-5, 11-2, 12-1, 12-2, 12-3, 12-4, 12-4B, 13-3
35 Compares and orders whole numbers, integers, fractions, and decimals using a number line when appropriate.	3-3, 5-8, 11-2
36 Uses a ratio to compare two quantities such as 1:2, $\frac{1}{2}$ , or 1 to 2. (Not introduced prior to this.)	5-4A, 5-4B, 8-1A, 8-1, 8-1B
37 Expresses equivalent ratios as a proportion (e.g., $\frac{1}{2} = \frac{4}{8}$ ).	8-2, 8-2B, 8-3, 8-4
38 Represents practical problem situations using integers (e.g., temperature above and below zero, directions, loss, or gain).	11-1, 11-2, 11-3, 11-4, 11-5, 11-6
39 Identifies numbers as odd, even, prime, and composite.	5-2A, 5-2, 5-9
40 Identifies and uses prime factors in practical applications, writes the prime factorization for a composite number, finds the multiples of a given number, and finds the greatest common factor and least common multiple of a set of numbers.	5-2A, 5-2, 5-3, 5-4, 5-7, 5-8, 5-9, 5-10

Component Strand Course Content Standard	Lesson Reference
<p><b>41</b> Describe orally and in writing, using the appropriate mathematical vocabulary, mathematical concepts and procedures, such as the reasoning involved in solving problems or computing.</p>	<p>1-1, 1-2, 1-3, 1-4, 1-5A, 1-5, 1-5B, 1-6, 1-7A, 1-7, 2-1, 2-2, 2-3, 2-3B, 2-4, 2-5, 2-6, 2-7, 2-7B, 2-8, 2-9, 3-1A, 3-1, 3-2A, 3-2, 3-3, 3-4, 3-5, 3-6A, 3-6, 4-1A, 4-1, 4-2, 4-3A, 4-3, 4-3B, 4-4, 4-4B, 4-5A, 4-5, 4-6A, 4-6, 4-7, 4-8, 4-9, 5-1, 5-2A, 5-2, 5-3A, 5-3, 5-4A, 5-4, 5-4B, 5-5, 5-6, 5-7, 5-8, 5-9, 5-10, 6-1, 6-2, 6-2B, 6-3, 6-4A, 6-4, 6-5, 6-6, 6-7, 7-1, 7-2A, 7-2, 7-3, 7-4, 7-5A, 7-5, 7-6, 7-7, 7-7B, 7-8A, 7-8, 7-8B, 8-1A, 8-1, 8-1B, 8-2, 8-2B, 8-3A, 8-3, 8-4A, 8-4, 8-5, 8-6, 8-7, 9-1, 9-1B, 9-2, 9-3A, 9-3, 9-4A, 9-4, 9-4B, 9-5, 9-6, 9-6B, 10-1A, 10-1, 10-2, 10-3, 10-3B, 10-4, 10-4B, 10-5A, 10-5, 10-6, 10-6B, 11-1, 11-2, 11-3A, 11-3, 11-4, 11-5, 11-6A, 11-6, 11-7, 11-8A, 11-8, 12-1, 12-2, 12-3, 12-4, 12-4B, 12-5A, 12-5, 12-6, 13-1A, 13-1, 13-2A, 13-2, 13-3, 13-3B, 13-4, 13-4B, 13-5</p>
<p><b>42</b> Recognizes and uses the commutative and associative properties of addition and multiplication, the distributive property, identities, inverses (including reciprocals), and properties of zero.</p>	<p>4-2, 7-5, 7-6, 11-3A</p>
<p><b>Strand: Patterns &amp; Relationships; Algebra</b></p>	
<p><b>43</b> Recognizes, describes, and generalizes patterns and sequences.</p>	<p>1-2, 5-3A, 7-8A, 7-8, 7-8B, 10-5A</p>
<p><b>Strand: Probability</b></p>	
<p><b>44</b> Identifies possible outcomes of a simple experiment and predicts or describes probability of a given event.</p>	<p>5-4B, 13-1, 13-2, 13-3, 13-3B</p>
<p><b>45</b> Explores the relationship between actual outcomes (experimental probability) and expected outcomes (theoretical probability).</p>	<p>5-4B, 13-1, 13-2, 13-3, 13-3B, 13-4B, 13-5</p>
<p><b>46</b> Selects and uses appropriate problem-solving strategies, determines operations to use and whether problems contain extraneous or insufficient information.</p>	<p>1-1, 1-2, 1-7A, 2-3B, 3-6A, 4-5A, 5-3A, 6-2B, 7-8A, 9-1B, 10-5A, 11-6A, 12-4B, 13-2A</p>
<p><b>47</b> Solves problems using one or two operations.</p>	<p>2-7, 3-5, 3-6, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, 6-3, 6-4, 6-5, 6-6, 6-7, 7-2, 7-3, 7-4, 7-5, 7-6, 7-7, 7-8B, 8-2B, 8-3, 8-7, 10-1, 10-2, 10-3, 10-5, 10-6, 11-3, 11-4, 12-1, 12-2, 12-3, 12-4, 12-4B, 12-5</p>

Component Strand Course Content Standard	Lesson Reference
48 Uses currency in practical problem solving.	1-7A, 2-8, 3-4, 3-5, 4-1, 4-2, 4-3, 4-5, 4-7, 6-4, 8-1, 8-6, 8-7, 10-5, 11-6A, 12-6, 13-2A
49 Uses proportion to solve problems.	8-2, 8-2B, 8-3
<b>Strand: Statistics &amp; Probability</b>	
50 Collects and organizes data, and determines appropriate method and scale to display data.	2-1, 2-2, 2-4, 2-6, 2-7B, 5-4B, 10-3B, 13-1A, 13-2A, 13-4B
51 Constructs tables, charts, pictographs and bar, circle, and simple line graphs to display data.	1-2, 2-1, 2-2, 2-3, 2-3B, 2-4, 2-5, 2-6, 2-7B, 4-3B, 7-8B, 8-2B, 10-3B, 10-6B, 13-2A
52 Finds median, mean, mode, and range of a given set of data.	2-7
53 Reads, interprets, and make predictions based on data displays.	1-2, 1-4, 1-5, 2-1, 2-2, 2-3, 2-3B, 2-4, 2-5, 2-6, 2-7, 2-7B, 2-8, 3-3, 3-5, 3-6A, 3-6, 4-3B, 4-4B, 4-6, 7-7, 10-5, 10-6B, 13-2A, 13-4B, 13-5