

# GLENCOE CORRELATION

## *Mathematics: Applications and Connections, Course 1*

GEORGIA

Quality Core Curriculum

Course: Sixth Grade Mathematics

Component Strand Course Content Standard		Lesson References
<b>Strand: Problem Solving</b>		
<b>1</b>	Solves problems, reasons, and estimates throughout mathematics: 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 simpler problem and then generalizing, and working backwards, etc. Selects and uses appropriate tools (such as mental computation, calculators, manipulative materials, paper and pencil, computer) in solving problems. Uses appropriate estimation strategies (such as front-end, breaking numbers apart, compatible numbers, guess and check, clustering, rounding, compensation) to check the reasonableness of results. Solves nonroutine problems for which the answer is not obvious. Relates concepts and skills to practical applications.	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
<b>2</b>	Describes orally and in writing, using the appropriate mathematical vocabulary, mathematical concepts and procedures, such as solving a word problem or computing.	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,

Component Strand Course Content Standard		Lesson References
<b>Strand: Problem Solving</b>		
		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
3	Uses scientific calculator and computer skills to solve problems, to discover patterns and sequences, to investigate situations and draw conclusions.	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
4	Uses computer software and applications to research, investigate, and analyze data and to represent this information using charts, tables, graphs, or other presentation forms.	2-3, 4-3B, 7-4, 7-8B, 8-2B, 10-6B
<b>Strand: Patterns &amp; Relationships; Algebra</b>		
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 $a + 4$ . If $a = 2$ , then $2 + 4 = 6$ ).	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
6	Uses order of operations to simplify numeric expressions that involve addition and subtraction with and without parenthesis.	1-4, 1-5, 1-5B, 1-6, 4-2
7	Finds the value of or solves for the variable in a simple algebraic equation such as $a + 6 = 10$ .	1-7, 7-2, 7-6, 12-1, 12-2, 12-3
8	Writes and solves a simple one-step equation (number sentence) for a given word problem.	1-7, 12-1, 12-2, 12-3, 12-4, 12-4B
<b>Strand: Whole Number Computation; Estimation; Whole Number Operations</b>		
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.	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
10	Performs computations mentally using strategies such as multiples of ten, compatible numbers, compensation, or breaking apart numbers.	1-7, 4-2, 4-4, 4-6, 4-9, 5-9, 6-3, 7-5, 8-2, 8-4, 8-5
11	Computes percent of a number using ratios, proportions, and equations.	8-7

Component Strand Course Content Standard		Lesson References
<b>Strand: Geometry &amp; Spatial Sense; Measurement</b>		
<b>12</b>	Uses characteristics and properties of lines and line segments to determine relationships between lines.	9-1, 9-3A, 9-4A, 9-4, 9-5, 9-6, 9-6B, 11-8A, 11-8
<b>13</b>	Identifies the component parts of an angle, its vertex, and sides or rays; and classifies angles as acute, right, obtuse, or straight.	9-1
<b>14</b>	Identifies lines of symmetry.	9-5
<b>15</b>	Identifies face, edge, and vertex of a geometric solid.	9-4B, 10-4
<b>16</b>	Identifies congruent and similar geometric figures.	9-6
<b>17</b>	Identifies effects of basic transformations on geometric shapes.	9-6B, 11-8A, 11-8
<b>18</b>	Contrasts and classifies simple plane and solid geometric figures by their properties.	9-4A, 9-4, 9-4B, 10-4, 10-4B
<b>19</b>	Locates, names, and graphs an ordered pair of numbers on a coordinate plane.	2-9, 11-7, 11-8
<b>20</b>	Identifies terms associated with a circle and finds the circumference using pi.	7-4
<b>21</b>	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
<b>22</b>	Measures angles using a protractor.	9-1, 9-2, 10-3B
<b>23</b>	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
<b>24</b>	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
<b>25</b>	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>		
<b>26</b>	Reads and writes numbers through trillions, in both numerical and word forms.	3-1
<b>27</b>	Writes numerals, up to one thousands, in expanded and standard notation interchangeably.	1-6
<b>28</b>	Identifies place value for whole numbers (trillions) and decimals (millionths).	3-1

<b>Component Strand Course Content Standard</b>		<b>Lesson References</b>
<b>29</b>	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
<b>30</b>	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
<b>31</b>	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
<b>32</b>	Changes improper fractions to mixed numbers and changes mixed numbers to improper fractions.	5-5
<b>33</b>	Converts a decimal to a whole number multiplied by a power of ten. (scientific notation)	3-1
<b>34</b>	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
<b>35</b>	Compares and orders whole numbers, integers, fractions, and decimals using a number line when appropriate.	3-3, 5-8, 11-2
<b>36</b>	Uses a ratio to compare two quantities such as 1:2, $\frac{1}{2}$ , or 1 to 2.	5-4A, 5-4B, 8-1A, 8-1, 8-1B
<b>37</b>	Expresses equivalent ratios as a proportion (e.g., $\frac{1}{2} = \frac{4}{8}$ ).	8-2, 8-2B, 8-3, 8-4
<b>38</b>	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
<b>39</b>	Identifies numbers as odd, even, prime, and composite.	5-2A, 5-2, 5-9
<b>40</b>	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
<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.	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

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

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<b>48</b>	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
<b>49</b>	Uses proportion to solve problems.	8-2, 8-2B, 8-3
<b>Strand: Statistics &amp; Probability</b>		
<b>50</b>	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
<b>51</b>	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
<b>52</b>	Finds median, mean, mode, and range of a given set of data.	2-7
<b>53</b>	Reads, interprets, and makes 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