

**Side-by-Side Comparison of the Texas Educational Knowledge and Skills (TEKS)
and Louisiana Grade Level Expectations (GLEs)**

MATHEMATICS: Grade 4

| TEKS | Comments | Louisiana GLE |
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| (4.1) Number, Operation, and Quantitative Reasoning. The student uses place value to represent whole numbers and decimals. | | Number and Number Relations |
| (4.1.A) use place value to read, write, compare, and order whole numbers through the millions place; and | | 1. Read and write place value in word, standard, and expanded form through 1,000,000 (N-1-E) 2. Read, write, compare, and order whole numbers using place value concepts, standard notation, and models through 1,000,000 (N-1-E) (N-3-E) (A-1-E) |
| (4.1.B) use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete objects and pictorial models. | | 5. Read, write, and relate decimals through hundredths and connect them with corresponding decimal fractions (N-1-E) |
| | <i>Not specifically addressed in TX</i> | 3. Illustrate with manipulatives when a number is divisible by 2, 3, 5, or 10 (N-1-E) 6. Model, read, write, compare, order, and represent fractions with denominators through twelfths using region and set models (N-1-E) (A-1-E) 8. Use common equivalent reference points for percents (i.e., $\frac{1}{2}$, $\frac{1}{4}$, and 1 whole) (N-2-E) |
| | <i>TX: Addressed in previous grade</i> | 12. Count money, determine change, and solve simple word problems involving money amounts using decimal notation (N-6-E) (N-9-E) (M-1-E) (M-5-E) |
| (4.2) Number, Operation, and Quantitative Reasoning. The student describes and compares fractional parts of whole objects or sets of objects. | <i>TX :focus is on describing and comparing parts of whole objects and parts of sets</i> | Number and number relations |
| (4.2.A) use concrete objects and pictorial models to generate equivalent fractions; | <i>Not specifically addressed in LA</i> | |

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| (4.2.B) model fraction quantities greater than one using concrete objects and pictorial models; | <i>Not specifically addressed in LA</i> | |
| (4.2.C) compare and order fractions using concrete objects and pictorial models; and | <i>LA: focus is on fractional equivalents and decimal equivalents</i> | |
| (4.2.D) relate decimals to fractions that name tenths and hundredths using concrete objects and pictorial models. | Also see GLE 5 | 5. Read, write, and relate decimals through hundredths and connect them with corresponding decimal fractions (N-1-E) |
| | <i>Not specifically addressed in TX</i> | 7. Give decimal equivalents of halves, fourths, and tenths (N-2-E) (N-1-E) |
| | <i>Not specifically addressed in TX</i> | 9. Estimate fractional amounts through twelfths, using pictures, models, and diagrams (N-2-E) |
| (4.3) Number, Operation, and Quantitative Reasoning. The student adds and subtracts to solve meaningful problems involving whole numbers and decimals. | | Number and Number Relations |
| (4.3.A) use addition and subtraction to solve problems involving whole numbers; and | <i>See LA Grade 3 GLE 11</i> | |
| (4.3.B) add and subtract decimals to the hundredths place using concrete objects and pictorial models. | <i>Not specifically addressed in LA</i> | |
| | <i>Not specifically addressed in TX</i> | 14. Solve real-life problems, including those in which some information is not given (N-9-E) |
| (4.4) Number, Operation, and Quantitative Reasoning. The student multiplies and divides to solve meaningful problems involving whole numbers. | <i>TX: focus is on representing multiplication and division using pictures, words, or numbers LA: Focus is on multiplication and division facts</i> | Number and Number Relations |

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| (4.4.A) model factors and products using arrays and area models; | <i>Not specifically addressed in LA</i> | |
| (4.4.B) represent multiplication and division situations in picture, word, and number form; | <i>Not specifically addressed in LA</i> | |
| (4.4.C) recall and apply multiplication facts through 12 x 12; | Approximate Match | 4. Know all basic facts for multiplication and division through 12 x 12 and $144 \div 12$, and recognize factors of composite numbers less than 50 (N-1-E) (N-6-E) (N-7-E) |
| (4.4.D) use multiplication to solve problems (no more than two digits times two digits without technology); and | | 10. Solve multiplication and division number sentences including interpreting remainders (N-4-E) (A-3-E) 11. Multiply 3-digit by 1-digit numbers, 2-digit by 2-digit numbers, and divide 3-digit numbers by 1-digit numbers, with and without remainders (N-6-E) (N-7-E) |
| (4.4.E) use division to solve problems (no more than one-digit divisors and three-digit dividends without technology). | <i>Not specifically addressed in LA</i> | |
| (4.5) Number, Operation, and Quantitative Reasoning. The student estimates to determine reasonable results. | <i>Not specifically addressed in LA</i> | |
| (4.5.A) round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations; and | <i>See LA Grade 3 GLE 12</i> | |
| (4.5.B) use strategies including rounding and compatible numbers to estimate solutions to multiplication and division problems. | | 13. Determine when and how to estimate, and when and how to use mental math, calculators, or paper/pencil strategies to solve multiplication and division problems (N-8-E) |
| (4.6) Patterns, Relationships, and Algebraic Thinking. The student uses patterns in multiplication and division. | <i>TX: focus is on using patterns and relationships in multiplication and division</i> | Algebra |
| (4.6.A) use patterns and relationships to develop strategies to remember basic multiplication and division facts (such as the patterns in related multiplication and division number sentences (fact families) such as $9 \times 9 = 81$ and $81 \div 9 = 9$); and | <i>Not specifically addressed in LA</i> | |

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| (4.6.B) use patterns to multiply by 10 and 100. | <i>Not specifically addressed in LA</i> | |
| | <i>LA : focus is on number sentences and solving one-step equations</i> | |
| | <i>Not specifically addressed in TX</i> | 15. Write number sentences or formulas containing a variable to represent real-life problems (A-1-E) |
| | <i>Not specifically addressed in TX</i> | 16. Write a related story problem for a given algebraic sentence (A-1-E) |
| | <i>Not specifically addressed in TX</i> | 17. Use manipulatives to represent the distributive property of multiplication over addition to explain multiplying numbers (A-1-E) (A-2-E) |
| | <i>Not specifically addressed in TX</i> | 18. Identify and create true/false and open/closed number sentences (A-2-E) |
| | <i>Not specifically addressed in TX</i> | 19. Solve one-step equations with whole number solutions (A-2-E) (N-4-E) |
| (4.7) Patterns, Relationships, and Algebraic Thinking. The student uses organizational structures to analyze and describe patterns and relationships. | <i>TX: focus is on analyzing and describing patterns and relationships</i> <i>LA: focus is on finding and describing patterns</i> | Patterns, Relations, and Functions |
| | <i>Not specifically addressed in TX</i> | 42. Find and describe patterns resulting from operations involving even and odd numbers (such as even + even = even) (P-1-E) 43. Identify missing elements in a number pattern (P-1-E) 44. Represent the relationship in an input-output situation using a simple equation, graph, table, or word description (P-2-E) |

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| (4.8) Geometry and Spatial Reasoning. The student identifies and describes attributes of geometric figures using formal geometric language. | <i>LA: focus is on identifying and describing properties of 2 and 3 dimensional figures; specifying locations of points in coordinate systems</i> | Geometry |
| (4.8.A) identify and describe right, acute, and obtuse angles; | <i>Not specifically addressed in LA</i> | 32. Draw, identify, and classify angles that are acute, right, and obtuse (G-5-E) (G-1-E) |
| (4.8.B) identify and describe parallel and intersecting (including perpendicular) lines using concrete objects and pictorial models ; and | <i>See LA GLE 32</i> | 32. Draw, identify, and classify angles that are acute, right, and obtuse (G-5-E) (G-1-E) |
| (4.8.C) use essential attributes to define two- and three-dimensional geometric figures. | <i>Addressed at third grade in LA</i> | |
| | <i>Not specifically addressed in TX</i> | 28. Identify the top, bottom, or side view of a given 3-dimensional object (G-1-E) (G-3-E) |
| | <i>Not specifically addressed in TX</i> | 29. Identify, describe the properties of, and draw circles and polygons (triangle, quadrilateral, parallelogram, trapezoid, rectangle, square, rhombus, pentagon, hexagon, octagon, and decagon) (G-2-E) |
| | <i>Not specifically addressed in TX</i> | 33. Specify locations of points in the first quadrant of coordinate systems and describe paths on maps (G-6-E) |
| (4.9) Geometry and Spatial Reasoning. The student connects transformations to congruence and symmetry. | | Geometry |
| (4.9.A) demonstrate translations, reflections, and rotations using concrete models; | | 30. Make and test predictions regarding transformations (i.e., slides, flips, and turns) of plane geometric shapes (G-3-E) |
| (4.9.B) use translations, reflections, and rotations to verify that two shapes are congruent; and | <i>Not specifically addressed in LA</i> | |
| (4.9.C) use reflections to verify that a shape has symmetry. | <i>Not specifically addressed in LA</i> | |
| | <i>Not specifically addressed in TX</i> | 31. Identify, manipulate, and predict the results of rotations of 90, 180, 270, and 360 degrees on a given figure (G-3-E) |
| (4.10) Geometry and Spatial Reasoning. The student recognizes the connection between numbers and their properties and points on a line. | <i>Not specifically addressed in LA</i> | |

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| (4.11) Measurement. The student applies measurement concepts. The student is expected to estimate and measure to solve problems involving length (including perimeter) and area. The student uses measurement tools to measure capacity/volume and weight/mass. | <p><i>TX: focus is on applying measurement concepts to solve problems</i></p> <p><i>LA: Focus is on recognizing and using standard units of measure in the metric and U. S. systems</i></p> | Measurement |
| (4.11.A) estimate and use measurement tools to determine length (including perimeter), area, capacity and weight/mass using standard units SI (metric) and customary; | | 22. Select and use the appropriate standard units of measure, abbreviations, and tools to measure length and perimeter (i.e., in., cm, ft., yd., mile, m, km), area (i.e., square inch, square foot, square centimeter), capacity (i.e., fl. oz., cup, pt., qt., gal., l, ml), weight/mass (i.e., oz., lb., g, kg, ton), and volume (i.e., cubic cm, cubic in.) (M-2-E) (M-1-E) |
| (4.11.B) perform simple conversions between different units of length, between different units of capacity, and between different units of weight within the customary measurement system; | | 27. Use unit conversions within the same system to solve real-life problems (e.g., 60 sec. = 1 min., 12 objects = 1 dozen, 12 in. = 1 ft., 100 cm = 1 m, 1 pt. = 2 cups) (M-4-E) (N-2-E) (M-5-E) |
| (4.11.C) use concrete models of standard cubic units to measure volume; | | 21. Describe the concept of volume, and measure volume using cubic in. and cubic cm and capacity using fl. oz. and ml (M-2-E) (M-3-E) |
| (4.11.D) estimate volume in cubic units; and | <i>Not specifically addressed in LA</i> | |
| (4.11.E) explain the difference between weight and mass. | <i>Not specifically addressed in LA</i> | |
| | <i>Not specifically addressed in TX</i> | <p>20. Measure length to the nearest quarter-inch and mm (M-2-E) (M-1-E)</p> <p>24. Recognize the attributes to be measured in a real-life situation (M-2-E) (M-5-E)</p> <p>25. Use estimates and measurements to calculate perimeter and area of rectangular objects (including squares) in U.S. (including square feet) and metric units (M-3-E)</p> <p>26. Estimate the area of an irregular shape drawn on a unit grid (M-3-E)</p> |

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| (4.12) Measurement. The student applies measurement concepts. The student measures time and temperature (in degrees Fahrenheit and Celsius). | | Measurement |
| (4.12.A) use a thermometer to measure temperature and changes in temperature; and | <i>LA: Addressed at an earlier grade level</i> | |
| (4.12.B) use tools such as a clock with gears or a stopwatch to solve problems involving elapsed time. | <i>Approximate Match</i> | 23. Set up, solve, and interpret elapsed time problems (M-2-E) (M-5-E) |
| (4.13) Probability and Statistics. The student solves problems by collecting, organizing, displaying, and interpreting sets of data. | | Data Analysis, Probability, and Discrete Math |
| (4.13.A) use concrete objects or pictures to make generalizations about determining all possible combinations of a given set of data or of objects in a problem situation; and | | 39. Use lists, tables, and tree diagrams to generate and record all possible combinations for 2 sets of 3 or fewer objects (e.g., combinations of pants and shirts, days and games) and for given experiments (D-3-E) (D-4-E) |
| (4.13.B) interpret bar graphs. | <i>LA: Addressed at an earlier grade level</i> | |
| | <i>Not specifically addressed in TX</i> | <p>36. Analyze, describe, interpret, and construct various types of charts and graphs using appropriate titles, axis labels, scales, and legends (D-2-E) (D-1-E)</p> <p>35. Find and interpret the meaning of mean, mode, and median of a small set of numbers (using concrete objects) when the answer is a whole number (D-1-E)</p> <p>37. Determine which type of graph best represents a given set of discrete data (D-2-E) (D-1-E)</p> <p>40. Determine the total number of possible outcomes for a given experiment using lists, tables, and tree diagrams (e.g., spinning a spinner, tossing 2 coins) (D-4-E) (D-5-E)</p> |
| (4.14) Underlying Processes and Mathematical Tools. The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school. | <i>Not specifically addressed in LA</i> | |
| (4.14.A) identify the mathematics in everyday situations; | <i>Not specifically addressed in LA</i> | |

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| (4.14.B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; | <i>Not specifically addressed in LA</i> | |
| (4.14.C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and | <i>Not specifically addressed in TX</i> | |
| (4.14.D) use tools such as real objects, manipulatives, and technology to solve problems. | <i>Not specifically addressed in TX</i> | |
| (4.15) Underlying Processes and Mathematical Tools. The student communicates about Grade 4 mathematics using informal language. | <i>Not specifically addressed in LA</i> | |
| (4.15.A) explain and record observations using objects, words, pictures, numbers, and technology; and | <i>Not specifically addressed in LA</i> | |
| (4.15.B) relate informal language to mathematical language and symbols. | <i>Not specifically addressed in LA</i> | |
| (4.16) Underlying Processes and Mathematical Tools. The student uses logical reasoning. | | |
| | <i>Not specifically addressed in TX</i> | 38. Solve problems involving simple deductive reasoning (D-3-E) |
| | <i>Not specifically addressed in TX</i> | 41. Apply appropriate probabilistic reasoning in real-life contexts using games and other activities (e.g., examining fair and unfair situations) (D-5-E) (D-6-E) |