**Virginia Standards of Learning Assessment**

**Grade 4 Mathematics Performance Level Descriptors**

| **Fail/Below Basic** | **Fail/Basic** | **Pass/Proficient** | **Pass/Advanced** |
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| A student performing at this level should be able to:  *Reporting Category 1: Number and Number Sense*   * identify whole numbers, fractions, and decimals using concrete materials * name comparison symbols (<, >, =) * round a whole number to the greatest place value   *Reporting Category 2: Computation and Estimation*   * add and subtract aligned whole numbers and decimals without regrouping * add fractions with like denominators   *Reporting Category 3: Measurement and Geometry*   * recognize units of measure * identify time on a digital and an analog clock * determine the perimeter or area of a rectangle given a figure with measurements * identify concrete models of cubes, cones, cylinders, points, lines, line segments, rays, and angles * identify figures that are squares and figures that are not squares   *Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra*   * identify events that are "certain" and "impossible" to occur * identify a bar graph and a line graph * identify repeating patterns using models or concrete materials * identify that an equation must have an equal sign | A student performing at this level should be able to:  *Reporting Category 1: Number and Number Sense*   * identify place and value of digits in whole numbers and decimals * round and compare whole numbers * use models to compare decimals or fractions * identify the fraction bar as a division symbol   *Reporting Category 2: Computation and Estimation*   * recall basic multiplication facts up to 10x10 * add and subtract decimals that are aligned * determine factors and multiples of a number * add and subtract fractions with like denominators   *Reporting Category 3: Measurement and Geometry*   * measure objects for length, weight, mass, and liquid volume * determine elapsed time in hours given beginning and ending times * identify squares and rectangles * determine perimeter or area of a given square or rectangle with measurements * identify solid geometric figures, points, lines, line segments, rays, and angles from pictures * identify parallel, perpendicular, and intersecting lines   *Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra*   * identify an event’s likelihood * match a probability event represented in a picture to its fraction * equate "0" with an impossible event and "1" with a certain event * construct and display data in bar graphs and line graphs * match data to graphs * identify and extend repeating patterns using models * determine if two numerical expressions are equal | A student performing at this level should be able to:  *Reporting Category 1: Number and Number Sense*   * read, write, round, compare, and order:   + whole numbers,   + decimals,   + fractions, and   + mixed numbers * represent fraction/fraction and fraction/decimal equivalence * relate fractions to division   *Reporting Category 2: Computation and Estimation*   * recall basic multiplication and division facts * add, subtract, multiply, and divide whole numbers to estimate and solve single-step and multistep practical problems * add and subtract decimals to estimate and solve single-step and multistep practical problems * add and subtract fractions to estimate and solve single-step and multistep practical problems * find common multiples and factors of two numbers, including:   + least common multiple and   + greatest common factor   *Reporting Category 3: Measurement and Geometry*   * find area and perimeter of rectangles and squares * estimate measures * measure objects * solve practical problems given unit measure involving:   + length,   + weight,   + mass, and   + liquid volume * find elapsed time in hours and minutes * describe and contrast characteristics of solid and plane geometric figures * classify quadrilaterals   *Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra*   * describe outcomes of events   represent probability using:   * + words,   + fractions,   + number lines, and   + models * construct, organize, and interpret bar graphs and line graphs * compare representations of the same data * recognize and extend numerical and pictorial patterns * demonstrate equality in equations | A student performing at this level should be able to:  *Reporting Category 1: Number and Number Sense*   * apply place value relationships and fraction and decimal equivalence to solve problems involving:   + rounding,   + comparing, and   + ordering   with:   * whole numbers, * decimals, * fractions, and * mixed numbers * use fraction/decimal and fraction/fraction equivalence to solve problems * use division statements and fractions interchangeably to:   + create,   + represent, and   + solve problems   *Reporting Category 2: Computation and Estimation*   * apply mathematical properties to create and solve single-and multistep practical problems with:   + whole numbers,   + decimals, and   + fractions * find least common multiple and greatest common factor of a set of numbers   *Reporting Category 3: Measurement and Geometry*   * solve practical area and perimeter problems * apply equivalent measures to solve practical problems involving:   + length,   + weight,   + mass, and   + liquid volume * solve practical problems involving elapsed time * compare, contrast, and create representations of solid and plane figures * compare and contrast quadrilaterals   *Reporting Category 4: Probability, Statistics, Patterns, Functions, and Algebra*   * evaluate experiments to determine and represent probability using:   + likelihood,   + fractions,   + number lines,   + models, and   + practical problems * analyze different representations of the same data to solve problems * analyze and extend numerical patterns * represent equivalent relationships in equations |