

## Achievement Level Descriptors Mathematics Grade 5

ALD	Standard	Level 2	Level 3	Level 4	Level 5
Policy		Students at this level demonstrate a <b>below satisfactory</b> level of success with the challenging content of the <i>Florida Standards</i> .	Students at this level demonstrate a <b>satisfactory</b> level of success with the challenging content of the <i>Florida Standards</i> .	Students at this level demonstrate an <b>above satisfactory</b> level of success with the challenging content of the <i>Florida Standards</i> .	Students at this level demonstrate <b>mastery</b> of the most challenging content of the <i>Florida Standards</i> .
		<b>A student performing at Level 2</b>	<b>A student performing at Level 3</b>	<b>A student performing at Level 4</b>	<b>A student performing at Level 5</b>
<b>Operations and Algebraic Thinking</b>					
Range	5.OA.1.1	evaluates a simple numerical expression with whole numbers, using parentheses, brackets, or braces, with two procedural operations	evaluates a numerical expression that contains a fraction, using parentheses, brackets, or braces, with three or more procedural operations	analyzes an error in the evaluation of a numerical expression that contains parentheses, brackets, or braces	inserts parentheses, brackets, or braces in numerical expressions to make a statement true or to equal a specified value
Range	5.OA.1.2	identifies a numerical expression from a written statement	writes and interprets numerical expressions that contain whole numbers or fractions, without evaluating them	writes and interprets numerical expressions that contain whole numbers and fractions with more than two procedural operations, without evaluating them	writes statements that describe a numerical expression in multiple ways
Range	5.OA.2.3	continues two numerical patterns using two given rules	generates two numerical patterns using two given rules; identifies apparent relationships between corresponding terms; graphs the ordered pairs on a coordinate plane	generates two numerical patterns using two multistep given rules; explains the relationship between corresponding terms; graphs the ordered pairs on a coordinate plane	uses the relationships identified between two patterns to make predictions or generalizations
<b>Number and Operations in Base Ten</b>					
Range	5.NBT.1.1	recognizes that a digit in one place represents 10 times as much as it represents in the place to its right, or 1/10 of what it represents in the place to its left	recognizes that a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left across multiple place values	explains, using multiplicative comparison, the relationship between the values of digits across multiple place values	[intentionally left blank]

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Range	5.NBT.1.2	recognizes patterns in the number of zeroes of products when multiplying a number by powers of 10; uses whole number exponents greater than zero to denote powers of 10	explains patterns in the number of zeroes of the product when multiplying a number by powers of 10, and explains patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; uses whole number exponents to denote powers of 10	interprets a multiplication problem to identify the factor of 10 by which one number is greater or lesser than another	[intentionally left blank]
Range	5.NBT.1.3	reads and writes decimals using base-ten numerals and number names	reads and writes decimals using expanded form; compares two decimals, using $>$ , $=$ , and $<$ symbols to record the results of comparisons	writes decimals in expanded form or base-ten numerals in multiple formats	compares two decimals that are written in different formats
Range	5.NBT.1.4	uses place value understanding of decimals to round to the nearest whole number	uses place value understanding to round multi-digit numbers between millions and thousands place to any place	uses rounding strategies in real-world situations	determines a number that falls between two numbers of different place values
Range	5.NBT.2.5	multiplies two two-digit numbers using the standard algorithm	fluently multiplies two-digit by up to five-digit numbers using the standard algorithm	determines the missing digit in a factor of a multiplication problem when given the product	analyzes an error in the multiplication computation using the standard algorithm and justifies the reasoning
Range	5.NBT.2.6	finds whole-number quotients of whole numbers (with up to two-digit dividends and two-digit divisors), using rectangular arrays or area models	finds whole-number quotients of whole numbers (with up to four-digit dividends and two-digit divisors), using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division; illustrates and explains the calculation by using equations, rectangular arrays, and/or area models	identifies or creates multiple division expressions that have a given quotient	solves for a quotient by continuing the steps of a given division strategy

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Range	5.NBT.2.7	adds and subtracts decimals to the hundredths place, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction	multiplies and divides decimals to the hundredths place, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relates the strategy to a written method and explains the reasoning used	adds, subtracts, multiplies, and divides decimals to the hundredths place to solve multistep problems	determines the error in the computation of a problem involving decimals, and justifies the reasoning
<b>Number and Operation—Fractions</b>					
Range	5.NF.1.1	adds/subtracts fractions with unlike denominators, where one denominator is a multiple of the other denominator	adds and subtracts fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions to produce an equivalent sum or difference of fractions with like denominators	adds or subtracts three fractions with unlike denominators	solves for an unknown numerator or denominator in an addition or subtraction problem given the sum or difference
Range	5.NF.1.2	solves word problems involving addition/subtraction of fractions with unlike denominators, where one denominator is a multiple of the other denominator, using visual representations	solves word problems involving addition and subtraction of fractions (including mixed numbers) with unlike denominators; assesses and justifies reasonableness of the answer by using benchmark fractions, visual models, or equations	solves multistep word problems involving the addition and subtraction of fractions with unlike denominators	analyzes the error in the solution of a multistep word problem involving the addition and subtraction of fractions with unlike denominators, and justifies the reasoning

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Range	5.NF.2.3	rewrites a fraction as a division problem ( $a/b = a \div b$ ); uses manipulatives or visual models to solve problems involving division of whole numbers, leading to answers in the form of fractions or mixed numbers	interprets and solves word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers	interprets a fraction greater than 1, presented as a mixed number, as division of the numerator by the denominator ( $a/b = a \div b$ ); identifies a context involving division of whole numbers, leading to answers in the form of fractions or mixed numbers	creates a context involving division of whole numbers, leading to answers in the form of fractions or mixed numbers
Range	5.NF.2.4 <b>Also Assesses 5.NF.2.6</b>	shows the product of a fraction by a whole number using visual fraction models; solves real-world problems involving multiplication of a fraction by a whole number by using visual fraction models or equations to represent the problem	finds the product of two fractions by using an area model; generalizes that $a/b \times c/d = (ac)/(bd)$ and uses it to solve mathematical or real-world problems involving multiplication of fractions	solves real-world problems involving multiplication of fractions and mixed numbers; creates a real-world context involving multiplication of fractions and/or mixed numbers	finds the possible fractional dimensions of a rectangle given the area; solves multistep mathematical and real-world problems involving multiplication of whole numbers, fractions, and/or mixed numbers
Range	5.NF.2.5	[intentionally left blank]	interprets and explains multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor, in a given situation, without performing the indicated multiplication	generalizes and explains multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor, without performing the indicated multiplication	[intentionally left blank]
Range	5.NF.2.7	[intentionally left blank]	solves real-world or mathematical problems involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions, using visual fraction models and equations to represent the problem	creates real-world problems involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions	[intentionally left blank]

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<b>Measurement and Data, Geometry</b>					
Range	5.MD.1.1	converts among different-sized standard measurement units within a given measurement system	uses one conversion to solve multistep, real-world problems	uses multiple conversions to solve multistep, real-world problems	analyzes a conversion problem to identify an error
Range	5.MD.2.2	makes a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{8}$ ); solves addition and subtraction problems using the data	uses a line plot to solve problems that require grade-appropriate fraction operations	uses a line plot to solve multistep word problems	[intentionally left blank]
Range	5.MD.3.3 <b>Also Assesses 5.MD.3.4</b>	identifies scenarios where cubic units can be used to calculate volume	counts unit cubes to find the volume of rectangular prisms; represents the volume of a solid figure as $n$ cubic units	uses unit cubes to create a rectangular prism with a given volume	uses unit cubes to create two different rectangular prisms with one given volume
Range	5.MD.3.5	solves volume problems of a right rectangular prism by using unit cubes	relates the number of unit cubes in a rectangular prism to the multiplication of the height to the area of the base or the multiplication of the edge lengths; solves real-world and mathematical problems by applying the formulas for volume	finds the volume of two non-overlapping right rectangular prisms by adding the volumes of the two non-overlapping parts	finds a missing dimension of a rectangular prism given two dimensions and the volume; generates possible dimensions of a rectangular prism given the volume
Range	5.G.1.1 5.G.1.2	identifies the key components of the coordinate plane (x-axis, x-coordinate, y-axis, y-coordinate, and origin)	identifies, locates, or graphs given points in the first quadrant of the coordinate plane; interprets coordinate values of points in the first quadrant in context	locates or graphs a point using directions from another point in the first quadrant	describes the direction from one point to another point; names or graphs the point that would complete a specified, two-dimensional geometric shape in the first quadrant

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Range	5.G.2.3 5.G.2.4	classifies two-dimensional figures into categories based on their sides and angles	understands that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category; classifies two-dimensional figures in the hierarchy based on these properties, including in a Venn diagram	draws or constructs two-dimensional figures belonging to a given subcategories	evaluates figures that share or do not share attributes that belong to a specified category and justify the reasoning