

## MATHEMATICS GRADE 3

ALD	Standard	Novice	Partially Proficient	Proficient	Advanced
Policy		<p>The Level 1 student is below proficient in applying mathematics knowledge/skills as specified in the standards.</p> <p>The student generally performs significantly below the standard for the grade level/course, is likely able to partially access grade-level content, and engages with higher-order thinking skills with extensive support.</p>	<p>The Level 2 student is approaching proficient in applying mathematics knowledge/skills as specified in the standards.</p> <p>The student generally performs slightly below the standard for the grade level/course, is able to access grade-level content, and engages in higher-order thinking skills with some independence and support.</p>	<p>The Level 3 student is proficient in applying mathematics knowledge/skills as specified in the standards.</p> <p>The student generally performs at the standard for the grade level/course, is able to access grade-level content, and engages in higher-order thinking skills with some independence and minimal support.</p>	<p>The Level 4 student is highly proficient in applying mathematics knowledge/skills as specified in the standards.</p> <p>The student generally performs significantly above the standard for the grade level/course, is able to access above grade-level content, and engages in higher order-thinking skills independently.</p>

<b>Operations and Algebraic Thinking</b>					
		<b>The Level 1 Student</b>	<b>The Level 2 Student</b>	<b>The Level 3 Student</b>	<b>The Level 4 Student</b>
Range	3.OA.1	Interprets products of single-digit whole numbers (using factors up to 5) with visual support.	Interprets products of single-digit whole numbers (using factors up to 9) with visual support.	Interprets products of single-digit whole numbers using equal groups of objects, arrays of objects, and comparison.	Interprets products of whole numbers within 100, representing context using pictures, numbers, and words.
Range	3.OA.2	Interprets whole-number quotients of whole numbers (with a divisor up to 5) with visual support.	Interprets whole-number quotients of whole numbers (with a divisor up to 9) with visual support.	Interprets quotients of whole-number division problems using equal groups of objects, arrays of objects, and comparison.	Interprets quotients of whole-number division problems, representing context using pictures, numbers, and words.
Range	3.OA.3	Using drawings and equations with a symbol for an unknown number, solves multiplication and division word problems within 100 in situations involving equal groups, arrays, and measurement quantities (with factors and divisors that are less than or equal to 5).	Using drawings and equations with a symbol for an unknown number, solves multiplication and division word problems within 100 in situations involving equal groups, arrays, and measurement quantities (with factors and divisors that are less than or equal to 9).	Interprets quotients of whole-number division problems using equal groups of objects, arrays of objects, and comparison.	Using drawings and equations with a symbol for an unknown number, solves multiplication and division multi-step word problems within 100 in situations involving equal groups, arrays, and measurement quantities.
Range	3.OA.4	Determines the unknown whole number in a multiplication or division equation when the unknown number is the product or quotient.	Determines the unknown whole number in a multiplication or division equation, in any position, when the factor or divisor is less than or equal to 5.	Determines an unknown whole number, in any position, in a multiplication and division equation.	Determines an unknown whole number in a multiplication and division equation. Students will use the given context to generate an equation or create a word problem.
Range	3.OA.5	Applies the properties of operations to multiply.	Applies the properties of operations to multiply and divide.	Determine an appropriate strategy for the given situation and apply the properties of operation as strategies to multiply and divide.	Applies multiple strategies of operations within a word problem.
Range	3.OA.6	Solves division as unknown factor problems by finding the missing number in the second factor position with visual support.	Solves division as unknown factor problems by finding missing numbers in any position with visual support.	Understands that division can be expressed as an unknown factor problem by using the relationship between multiplication and division.	Solves division as unknown factor problems by using the relationship between multiplication and division and models multiplication and division in a variety of ways.

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Range	3.OA.7	Multiplies single-digit numbers using a variety of strategies and supports.	Multiplies and divides all single-digit numbers using a variety of strategies and supports.	Using mental strategies, fluently multiplies and divides within 100.	Fluently multiplies and divides within 100 using a wide range of contexts.
Range	3.OA.8	Solves two-step word problems using addition and subtraction with simple context and concrete objects or visual representations.	Solves two-step word problems using the four operations with simple context and visual representations (with the unknown in a variety of positions).	Solves two-step word problems using equations in the four operations (with the unknown in a variety of positions, using a letter standing for the unknown quantity). Assess the reasonableness of answers using mental computation and estimation strategies.	Creates two-step word problems using multiple operations.
Range	3.OA.9	Identifies additive arithmetic patterns using visual supports, such as an addition table.	Identifies multiplicative and subtractive arithmetic patterns using visual supports.	Identifies arithmetic patterns and explains them using properties of operations.	Creates and extends arithmetic patterns, explains patterns using properties of operations.

### Number and Operations in Base Ten

		The Level 1 Student	The Level 2 Student	The Level 3 Student	The Level 4 Student
Range	3.NBT.1	Uses place value understanding to round a two-digit number to the nearest 10.	Uses place value understanding to round a three-digit number to the nearest 100.	Uses place value understanding to round whole numbers (up to 1,000) to the nearest 10 or 100.	Uses rounding strategies in real-world situations.
Range	3.NBT.2	Adds and subtracts two-digit numbers using visual models or support.	Adds and subtracts numbers within 1,000 using visual models or support.	Fluently adds and subtracts within 1,000 using strategies and algorithms based in place value, properties of operations, and/or the relationship between addition and subtraction.	Fluently adds and subtracts within 1,000; explains the method used in finding the sum or difference; and recognizes and identifies an error and shows the correct answer.
Range	3.NBT.3	Skip counts by 10, 20, or 50 to multiply single-digit whole numbers by multiples of 10 in the range 10–90.	Uses grouping strategies (associative property) to multiply single-digit whole numbers by multiples of 10 in the range 10–90.	Multiplies single-digit whole numbers by multiples of 10 in the range 10–90 using place value strategies and properties of operations.	Multiplies single-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations and shows product using multiple strategies.

### Number and Operations - Fractions

		The Level 1 Student	The Level 2 Student	The Level 3 Student	The Level 4 Student
Range	3.NF.1	Identifies the numerator and the denominator.	Identifies that the numerator is the number of equal parts being considered and identifies that the denominator is the number of equal parts that make up the whole.	Understands $1/b$ is equal to one part when the whole is partitioned into $b$ equal parts (where the denominators are 2, 3, 4, 6, or 8).	Applies understanding of unit fractions to real-world situations and problems.
Range	3.NF.2a 3.NF.2b	Identifies the fraction on the number line where the increments are equal to the denominator.	Represents a fraction on a partitioned number line.	Represents a fraction on a number line by partitioning into equal parts.	Represents a set of fractions with unlike denominators on a number line by partitioning into equal parts.

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Range	3.NF.3a 3.NF.3b	Understands, recognizes, and generates equivalent fractions using denominators of 2, 4, and 8 given visual models.	Understands, recognizes, and generates equivalent fractions using denominators of 2, 4, and 8.	Understands, recognizes, and generates equivalent fractions using denominators of 2, 3, 4, 6, and 8 and explains why the fractions are equivalent using a visual model.	Understands, recognizes, and generates equivalent fractions using denominators of 2, 3, 4, 6, and 8 and explains why the fractions are equivalent.
Range	3.NF.3c	Recognizes and expresses fractions that are equivalent to 1.	Recognizes and expresses fractions that are equivalent to whole numbers.	Recognizes fractions that are equivalent to whole numbers and expresses whole numbers as fractions.	Identifies equivalent fractions by creating fraction models to compare fractions with different denominators that pertain to the same whole.
Range	3.NF.3d, 3.NF.3e 3.NF.3f	Compares two fractions with the same denominator and records results using symbols.	Compares two fractions with the same numerator and records results using symbols.	Compares two fractions that have the same numerator or same denominator using symbols and justified by using visual fraction models.	Compare and order multiple-fractions that have the same numerator or same denominator.
<b>Measurement and Data &amp; Geometry</b>					
		<b>The Level 1 Student</b>	<b>The Level 2 Student</b>	<b>The Level 3 Student</b>	<b>The Level 4 Student</b>
Range	3.MD.1	Tells, writes, and measures time to the nearest minute.	Tells, writes, and measures time to the nearest minute. Solves elapsed word problems on the hour using a variety of strategies.	Selects and uses appropriate tools to measure the length of an object. Tells and writes time to the nearest minute and measures time intervals in minutes. Solves elapsed-time word problems on the hour and the half hour using a variety of strategies.	Tells, writes, and measures time to the nearest minute. Solves two-step real world problems involving addition and subtraction of time intervals in minutes.
Range	3.MD.2	Using grams, kilograms, or liters, measures and estimates liquid volumes and masses of objects using models.	Using grams, kilograms, or liters, measures and estimates liquid volumes and masses of objects and solves simple one-step word problems using either addition or subtraction.	Using grams, kilograms, or liters, measures, estimates, and solves one-step word problems involving liquid volumes and masses of objects using any of the four operations.	Using grams, kilograms, or liters, measures, estimates, and solves two-step word problems involving liquid volumes and masses of objects using any of the four operations.
Range	3.MD.3	Completes a scaled picture graph and a scaled bar graph (with a scale factor of 1 or 5) to represent data set with supports, such as using a model as a guide.	Completes a scaled picture graph and a scaled bar graph to represent data set, with supports, such as using a model as a guide. Solves one-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	Creates a scaled picture graph and a scaled bar graph to represent a data set. Solves one- and two-step "how many more" and how many less" problems using information presented in scaled bar graphs.	Creates a scaled picture graph and a scaled bar graph to represent a data set. Solves multi-step "how many more" and how many less" problems using information presented in scaled bar graphs.

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Range	3.MD.4	Generates measurement data by measuring lengths to the nearest half-inch. Shows the data by making a line plot where the horizontal scale is marked in appropriate units (whole number or halves) with supports.	Generates measurement data by measuring lengths to the nearest half- and quarter-inch. Shows the data by making a line plot where the horizontal scales are marked in appropriate units (whole numbers, halves, and quarters) with supports.	Generates measurement data by measuring lengths to the nearest half- and quarter-inch. Shows the data by making a line plot, where the horizontal scale is marked in appropriate units (whole number, halves, or quarters).	Generates measurement data by measuring lengths to the nearest half- and quarter-inch. Shows the data by making a line plot and horizontal scale in appropriate units (whole number, halves, or quarters). Uses the line plot to answer questions or solve problems.
Range	3.MD.5a 3.MD.5b 3.MD.6	Understands what a square unit is and that a plane figure can be covered without gaps or overlaps to find an area.	Understands that area is measured using square units and finds the area of a rectangle by counting the square units.	Understands that area is measured using square units and finds the area of a plane figure by counting the square units.	Finds the area of two plane figures by counting the square units and compares their sizes.
Range	3.MD.7a 3.MD.7b	Finds the area of a rectangle by tiling.	Finds the area of a rectangle by tiling and shows that the area is the same as would be found by multiplying the side lengths.	Finds areas of rectangles by multiplying the side lengths, in the context of solving real-world and mathematical problems, and represents whole-number products as rectangular areas in mathematical reasoning.	Finds the area of two plane figures of different sizes and compares their sizes.
	3.MD.7c 3.MD.7d	Finds the area of two rectangles by tiling.	Finds the area of two rectangles by tiling and adds the areas of the rectangles.	Multiplies the side lengths of a rectangle composed of two rectangles and uses the distributive property to find the overall area and decomposes a rectangle into two rectangular parts and finds the area of the new rectangles.	Creates a word problem using the distributive property to find the area of rectangles.
Range	3.MD.8	Finds the perimeter and area of polygons (given the side lengths).	Solves mathematical problems involving perimeters of polygons, including finding the perimeter and area (given the side lengths) and compares and contrasts area and perimeter.	Solves real-world and mathematical problems involving perimeters of polygons, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Constructs rectangles that have the same perimeter but different areas and the reverse.
Range	3.G.1	Identifies examples of quadrilaterals and recognizes that examples of quadrilaterals have shared attributes and that the shared attributes can define a larger category.	Understands the properties of quadrilaterals and the subcategories of quadrilaterals.	Recognizes examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category and draws examples of quadrilaterals that don't belong to the categories of rhombuses, rectangles, and squares.	Recognizes and sorts examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category and draws examples and non-examples of quadrilaterals that are rhombuses, rectangles, or squares.

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Range	3.G.2	Partitions shapes into parts with equal areas and expresses the area as a unit fraction of the whole (limited to denominators of 2 and 4).	Partitions shapes into parts with equal areas and expresses the area as a unit fraction of the whole (with denominators of 2, 4, and 8).	Partitions shapes into parts with equal areas and expresses the area as a unit fraction (with denominators of 2, 3, 4, 6, or 8) of the whole.	Partitions shapes in multiple ways into parts with equal areas and expresses the area as a unit fraction of the whole.
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