Alabama Achievement Level Descriptors
Grade 3 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Operations and Algebraic Thinking	▪ Interprets products of whole numbers with whole number factors less than or equal to 5, given a visual model. ▪ Multiplies within 50 to solve word problems, using visual models or repeated addition only. ▪ Determines the unknown number in a multiplication equation with factors of 10 or less. ▪ Recognizes that repeated addition corresponds to multiplication. ▪ Given visual models and/or manipulatives, solves one-step word problems using all four operations.	▪ Interprets products of whole numbers with whole number factors less than or equal to 12. ▪ Multiplies and divides to solve word problems within 100, using visual models. ▪ Determines the unknown number in a simple division equation. ▪ Recognizes that repeated subtraction corresponds to division. ▪ Restates division as an unknown factor problem. ▪ Given visual models and/or manipulatives, solves simple two-step word problems using addition, subtraction, and multiplication. ▪ Translates a contextual description into an expression or equation that may be used to answer questions in the context.	▪ Interprets products and quotients of whole numbers. ▪ Multiplies and divides within 100 to solve word problems, using visual models and/or equations. ▪ Determines the unknown whole number in a multiplication or division equation relating three whole numbers. ▪ Uses properties of operations and/or the relationship between multiplication and division to multiply and divide fluently. ▪ Recognizes division as an unknown factor problem. ▪ Solves two-step word problems using all four operations. ▪ Represents two-step word problems with equations. ▪ Uses estimation to assess reasonableness of answers.	▪ Interprets products and quotients of whole numbers fluently including with real world scenarios. ▪ Explains the properties of operations, in solving multiplication and division word problems and equations. ▪ Represents word problems with equations and explains solutions.

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	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Number and Operations in Base Ten	▪ Uses knowledge of place value to round whole numbers to the nearest 10. ▪ Adds within 100 using visual models and pictures.	▪ Uses knowledge of place value to round whole numbers to the nearest 100. ▪ Adds within 100 using the relationship between addition and subtraction. ▪ Multiplies one-digit whole numbers by multiples of 10. ▪ Identifies arithmetic patterns.	▪ Use knowledge of place value to round whole numbers to the nearest 10 or 100. ▪ Fluently adds and subtracts within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. ▪ Uses knowledge of place value to add and subtract multiples of 10 or 100 to whole numbers within 1,000. ▪ Multiplies one-digit whole numbers by multiples of 10 using strategies based on place value and properties of operations. ▪ Identifies and explains arithmetic patterns.	▪ Fluently adds or subtracts within 1,000. ▪ Solves word problems that involve using knowledge of place value by multiplying one-digit numbers by multiples of 10. ▪ Explains arithmetic patterns using mathematical terms and properties of operations.

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	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Number and Operations – Fractions	- Identifies the location of 1/2 and 1/4 with a visual model. - Given a visual model, identifies equivalent fractions for fractions with denominators 2 and 4. - Compares fractions with the same denominator with a visual model only.	- Recognizes that $1/b$ is equal to one part of a whole with b parts with denominators of 2 or 4 only. - Compares two fractions with the same denominator. - Represents benchmark fractions on a number line. - Given a visual model, identifies equivalent fractions for fractions with denominators 2, 4, and 8. - Expresses whole numbers as fractions. - Makes sense of quantities that are represented by fractions as part of a total number of objects.	- Recognizes that a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts. Identifies a fraction a/b as the quantity formed by a parts and size $1/b$. - Represents the fraction $1/b$ and a/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. - Recognizes, and generates equivalent fractions with denominators of 2, 3, 4, 6, and 8. - Expresses whole numbers as fractions. - Compares two fractions with the same numerator or denominator by reasoning about size. - Recognizes that a comparison of fractions is only possible if they refer to the same whole.	- Uses quantitative reasoning to conceptualize a fraction a/b as a parts of size $1/b$, with a and b both whole numbers. - Solves multi-step problems involving parts of a whole quantity with fractions as solutions. - Interprets, recognizes, and generates equivalent fractions with denominators of 2, 3, 4, 6, and 8. - Compares two or more fractional values, including by using a number line to identify the position of each fraction.

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	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Measurement and Data	▪ Identifies time from a clock. ▪ Identifies measurements of time, length, liquid volume and masses of objects and their corresponding units.	▪ Tells time to the nearest minute. ▪ Solves word problems involving addition of time. ▪ Estimates liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). ▪ Measures times, lengths, or liquid volumes (milliliters, liters) and draws a picture or bar graph to organize the findings.	▪ Tells and writes time to the nearest minute and measures time in minute intervals. ▪ Solves word problems involving addition and subtraction of time intervals in minutes. ▪ Measures and estimates liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). ▪ Adds, subtracts, multiplies or divides to solve one-step word problems involving masses or volumes that are given in the same units. ▪ Draws a scaled picture graph and a scaled bar graph to represent a data set with several categories.	▪ Solves word problems involving calculations of time and can identify and explain an error in an elapsed time calculation. ▪ Justifies answers and reasoning to two-step measurement problems. ▪ Uses error analysis to critique the work of others.

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	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Measurement and Data	- Solves simple one-step "how many more" problems using information presented in bar graphs with scales of 1. - Solves area problems with a visual model by counting. - Recognizes that with a visual model area is measured using square units and can be found by covering a plane figure with unit squares, without gaps or overlaps, and counting them.	- Solves one-step "how many less" problems using information presented in bar graphs with scales of 1. - Solves area problems by counting or tiling.	- Solves one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. - Generates measurement data by measuring lengths using rulers marked with halves and fourths of an inch and represents data by making a line plot. - Identifies area as an attribute of plane figures. - Recognizes that a plane figure covered without gaps or overlaps by n unit squares is said to have an area of n square units. - Solves area problems by multiplying side lengths and tiling and explains that area is the same using either method. - Recognizes area as additive and finds areas by decomposing figures for mathematical and real world problems.	- Solves and explains solutions to multi-step "how many more" and "how many less" problems presented in scaled bar graphs. - Generates measurement data by measuring lengths using rulers marked with halves and fourths, including mixed numbers, of an inch and represents data by making a line plot. - Creates and recognizes multiple representations of area.

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	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Measurement and Data	▪ Finds perimeter of a figure given all sides.	▪ Finds the area or perimeter of a square or rectangle.	▪ Solves real world and mathematical problems involving perimeters of polygons.	▪ Solves problems relating area and perimeter of shapes.

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Geometry	- Identifies quadrilaterals. - Identifies shapes partitioned into equal parts.	- Identifies rhombuses, rectangles, and squares as quadrilaterals. - Identifies the fraction of a rectangle that is shaded or partitioned. - Describes the area of each part of a simple partitioned shape as $1/b$ of the area of the shape.	- Recognizes that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). - Constructs and partitions a shape to represent a given fraction. - Describes the area of each part of a partitioned shape as $1/b$ of the area of the shape. - Creates a symbolic representation of a fractional value.	- Given attributes and properties of a figure, defines the given figure. - Sketches common quadrilaterals to represent and solve problems and justify solution pathways. - Decomposes composite shapes into basic, easily defined shapes.

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