3rd Grade Math

Purpose

The rubrics provide a guide to teachers on how to mark students. This helps with consistency across teachers, although all grading involves some subjectivity. In addition to this broad look, more valuable ongoing assessments are utilized to provide detailed data regarding student progress.

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3rd Grade Math

Statement	Exceeds	Secure	Developing	Beginning
Multiplies fluently	Efficiently and effectively multiplies beyond 100 using mental strategies.	Efficiently and effectively multiplies within 100 using mental strategies. (rate, accuracy, strategy)	Multiplies within 100 using manipulatives and mental strategies.	Multiplies within 100 using manipulatives.
Divides fluently	Efficiently and effectively divides beyond 100 using mental strategies.	Efficiently and effectively divides within 100 using mental strategies. (rate, accuracy, strategy)	Divides within 100 using manipulatives and mental strategies.	Divides within 100 using manipulatives.
Solves problems involving the four operations	Solves multi-step word problems involving the four operations and represents these problems using a variable.	Solves two-step word problems involving the four operations and represents these problems using a variable.	Solves basic word problems involving the four operations and does not represent these problems using a variable.	Solves one-step word problems involving the four operations.
Represents, interprets and solves multiplication and division word problems	Solves and represents multi-digit multiplication and division word problems, and explains how the process works.	Solves and represents multiplication and division word problems within 100.	Solves multiplication OR division word problems.	Solves multiplication or division word problems with support.
Understands relationship between multiplication and division	Represents a multiplication or division problem in multiple ways.	Understands and applies multiplication and division properties, and relates multiplication and division to find unknown factors.	Determines the missing variable in one operation, but cannot apply it to the other.	Recalls basic facts.
Represents and interprets data	Represents and interprets data in alternative ways including using a different type of graph or changing the scale on the graph.	Draws a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solves one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	Interprets a scaled picture graph and a scaled bar graph with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	Solves one-step problems using information presented in scaled graph.

Identifies, describes, and reasons with shapes and their attributes	Categorizes shapes by defining attributes.	Understands that two-dimensional shapes in different categories may share attributes, and that the shared attributes can define a larger category. Recognizes rhombuses, rectangles, and squares as examples of quadrilaterals, and draws examples of quadrilaterals that do not belong to any of these subcategories.	Names the shapes, does not understand how to categorize them given attributes.	Identifies basics shapes.
Measures lengths in standard units	Generates measurement data by measuring lengths using rulers marked with eighths and sixteenths of an inch.	Generates measurement data by measuring lengths using rulers marked with halves and fourths of an inch.	Generates measurement data by measuring lengths using rulers marked with halves of an inch.	Needs support when measuring with a ruler.
Solves problems involving measurement and estimation	Measures and estimates liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Create multi-step word problems involving masses of volumes that are given in the same units and represent the problem in multiple ways.	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 of volumes that are given in the same units by using drawings to represent the problem.	Measures and estimates liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l) OR adds, subtracts, multiplies, or divides to solve one-step word problems involving masses of volumes that are given in the same units by using drawings to represent the problem.	Solves one-step word problems using measurement data, is unable to represent the problem using a drawing.

Understands concepts of area and perimeter	Solves real world and mathematical problems involving perimeters of polygons, including measuring the side lengths, finding the unknown side length, and create rectangles with the same perimeter and different areas or with the same area and different perimeters.	Solves real world and mathematical problems involving perimeters of polygons including finding perimeter with known side lengths, finding the unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Measures area by counting unit squares (square cm, square m, square in, square ft, and improvised units).	Recognizes area as an attribute of plane figures and understands concepts of area measurement.
Understands place value.	Reads and writes multi-digit whole and partial numbers using base-10 numerals, number names, and expanded form beyond five digits, and compares those numbers using relational symbols.	Reads and writes multi-digit whole numbers using base-10 numerals, number names, and expanded form. Compares two multi-digit numbers (up to five digits) using relational symbols.	Reads and writes multi-digit whole numbers using base-10 numerals, number names, and expanded form.	Understands that the five digits of a five-digit number represent amounts of ten-thousands, thousands, hundreds, tens, and ones.
Understands and uses place value to perform multi-digit arithmetic.	Rounds beyond 100 AND adds and subtracts beyond 1000 AND multiplies mult-digit whole number by multiples of 10.	Rounds whole numbers to the nearest 10 or 100 AND adds and subtracts within 1000 AND multiplies one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60).	Adds and subtracts within 1000 AND multiplies one-digit whole numbers by multiples of 10 in the range 10–90.	Adds and subtracts within 1000 OR multiplies one-digit whole numbers by multiples of 10 in the range 10–90.
Develops understanding of fractions as numbers.	Generates multiple equivalent fractions for a given fraction and compares fractions with unlike numerators and denominators.	Recognizes and generates simple equivalent fractions and explain why they are equivalent using a visual model AND compares two fractions with the same numerator or denominator.	Recognizes and generates simple equivalent fractions and explains why they are equivalent using a visual model OR compares two fractions with the same numerator or denominator.	Partitions shapes into parts with equal areas. Expresses the area of each part as a unit fraction of the whole.

The asterisk (*) denotes one possible way a student could demonstrate enrichment or extension that would be designated as Exceeds Standard.