



## 5th 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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## 5<sup>th</sup> Grade Math

Statement	Exceeds	Secure	Developing	Beginning
<b>Finds prime factorization of numbers</b>	Finds the prime factorization of 3-digit numbers and writes the result in exponential notation	Finds the prime factorization of numbers	Identifies prime and composite numbers	Relies on teacher support to identify prime and composite numbers
<b>Writes and interprets numerical expressions</b>	Writes expressions that include nested parentheses and interprets the expressions	Writes simple expressions that use parentheses and interprets numerical expressions	Inserts parentheses into an expression to make it true	Interprets numerical expressions involving parentheses
<b>Represents and interprets data</b>	Creates a line plot to display a data set of measurements in fractions with any denominator. Creates and solves problems using the information provided in the line plots	Creates 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 problems involving information in the line plots	Creates a line plot to display a data set of measurements with whole numbers. Solves problems involving information in the line plots	Given a line plot, solves problems using the information provided
<b>Classifies two-dimensional figures into categories based on their properties</b>	Classifies three-dimensional figures in a hierarchy based on properties	Classifies two-dimensional figures in a hierarchy based on properties	Provided a hierarchy, categorizes and classifies figures	Uses attributes to categorize two-dimensional figures
<b>Converts like measurement units within a given measurement system</b>	Converts multiple standard measurements within and between measurement systems to solve real-world problems	Converts among standard measurement units within a given measurement system. Uses the conversions in solving multi-step, real world problems	Converts among standard measurement units within a given measurement system	Converts among measurement units within a given measurement system when given a conversion chart

<b>Graphs points on coordinate plane to solve real-world and mathematical problems</b>	Generates numerical patterns using given rules. Identifies apparent relationships between corresponding terms and plots on coordinate graph to solve problems using multiple quadrants	Generate two numerical patterns using two given rules. Identifies apparent relationships between corresponding terms and plots on coordinate graph to solve problems	Graphs ordered pairs when given rules	Given an ordered pair, plots point in first quadrant
<b>Understands concepts of volume</b>	Solves and justifies real world and mathematical problems to find volume of irregular figures	Solves real world and mathematical problems to find volume of right rectangular prisms	Calculates volume of right rectangular prisms when provided measurements and formula	Recognizes volume as an attribute of a solid figure which can be measured
<b>Understands the place value system</b>	Creates and solves real world math problems using powers of 10, in which exponents can be positive or negative	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	Recognizes place value to the thousandth place. Converts between standard notation and exponential notation	Names place value without describing the relationship between placements
<b>Performs operations with multi-digit whole numbers and decimals to hundredths</b>	Adds, subtracts, multiplies, and divides decimals to hundredths in real world problems	Adds, subtracts, multiplies, AND divides decimals to hundredths	Adds, subtracts, and multiplies decimals to hundredths	Adds, subtracts, multiplies, OR divides decimals to hundredths
<b>Adds and subtracts fractions with unlike denominators</b>	Adds and subtracts fractions with unlike denominators and writes answer in simplest form	Adds AND subtracts fractions with unlike denominators	Adds OR subtracts fractions with unlike denominators	Adds or subtracts fractions with like denominators
<b>Multiplies and divides fractions</b>	Divides a fraction of a fraction	Multiplies fractions AND divides unit fractions using fraction models or equations to solve the problem	Multiplies fractions OR divides unit fractions using fraction models or equations to solve the problem	Multiplies fractions to solve problem, unable to represent the solution

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