Performance Level Descriptors – Grade 6 Mathematics

PLD	Domain	Below Basic	Basic	Proficient	Advanced
Reporting		**Below Basic do not yet demonstrate proficiency in the knowledge and skills** necessary at this grade level/course of learning, as specified in content expectations. The students need substantial academic support to be prepared for the next grade level or course and to be on track for *college and career readiness.*	**Basic demonstrate partial proficiency in the knowledge and skills** necessary at this grade level/course of learning, as specified in content expectations. The students need additional academic support to ensure success in the next grade level or course and to be on track for *college and career readiness.*	**Proficient demonstrate proficiency in the knowledge and skills** necessary at this grade level/course of learning, as specified in content expectations, and uses clear and precise language when communicating mathematical understanding. The students are prepared for the next grade level or course and are on track for *college and career readiness.*	**Advanced demonstrate advanced proficiency in the knowledge and skills** necessary at this grade level/course of learning, as specified in content expectations. The students are well prepared for the next grade level or course and are well prepared for *college and career readiness.*
		A student who performs at the **Below Basic** level demonstrates minimal command of the grade-level expectations.	A student who performs at the **Basic** level demonstrates partial command of the grade-level expectations.	A student who performs at the **Proficient** level demonstrates proficiency of the grade-level expectations.	A student who performs at the **Advanced** level demonstrates advanced proficiency of the grade-level expectations.
Range	**Ratios and Proportional Relationships**	Represents a ratio given a verbal description; converts units within systems of measurement	Calculates whole number percents of a given quantity; represents a ratio as a percent; uses ratio reasoning to solve problems; converts between systems of measurements	Uses percents and unit rates to solve problems; represents a ratio relationship using a table or graph; uses ratios to convert measurement units to solve problems	Uses multiple mathematical representations to symbolize and solve real-world problems involving ratios; understands the concept of a unit rate and uses rate and ratio language to communicate reasoning; manipulates units to interpret quantities
	Number System and Operations	Calculates values using the four operations on multi-digit whole numbers; generates equivalent representations of benchmark rational numbers; orders and compares integers on a number line	Calculates values using the four operations on non-negative rational numbers (excluding division of fractions by fractions); finds factors and multiples; orders rational numbers on a number line; orders and compares integers	Calculates values using the four operations on non-negative rational numbers; finds least common multiples and greatest common factors and uses the distributive property; orders rational numbers; understands the use of the negative sign and	Represents operations on non-negative rational numbers in multiple ways; analyzes and applies the previous understanding of numbers to the system of rational numbers in real-world contexts; represents and interprets

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				absolute value in terms of the context of problems	numerical comparisons and absolute values with respect to number lines
Range	Expressions, Equations and Inequalities	Reads and evaluates numeric expressions; evaluates one-variable expressions using substitution and recognizes the difference between an expression and an equation	Reads and evaluates algebraic expressions and numeric expressions with whole number exponents; solves single-step one-variable equations and tests inequalities, given a set; identifies parts of an expression using mathematical terminology	Writes algebraic expressions and numeric expressions with whole-number exponents; applies properties of operations to write and identify equivalent expressions and equations; writes and graphs inequalities, given constraints; represents and analyzes relationships between independent and dependent variables	Compares and interprets algebraic expressions and numeric expressions with whole number exponents; understands and interprets expressions, equations, and inequalities in real-world contexts; evaluates the reasonableness of solutions in a real-world context; interprets relationships between dependent and independent variables in real-world contexts
	Geometry and Measurement	Calculates the area of rectangles and right triangles and the volume of right rectangular prisms; plots points in the Cartesian coordinate plane	Calculates the area of triangles and surface area of right rectangular prisms; solves problems involving plotting points on the Cartesian coordinate plane; draws polygons in the Cartesian coordinate plane	Solves word problems involving the area of polygons, the volume of right rectangular prisms, and surface area of three-dimensional objects with rectangular or triangular faces; solves problems using nets of three-dimensional figures with rectangular and triangular faces; finds distances between points with the same first coordinate or the same second coordinate in the Cartesian coordinate plane	Constructs and justifies a solution to multistep real-world word problems involving the area of polygons, the volume of right rectangular prisms, and the surface area of three-dimensional objects with rectangular or triangular faces; interprets the solution in the context of the problem
	Data Analysis, Statistics and Probability	Calculates the median and identifies the minimum and maximum of a given data set and solves one-step problems given a data display	Recognizes a statistical question must involve variability in the answer; calculates the mean, the quartiles and interquartile range; creates appropriate data displays	Describes the nature and distribution of data in terms of shape, center, spread and the number of observations; interprets data displays and uses them to solve problems; calculates the mean absolute deviation; understands the relationships between measures of center and	Interprets and communicates the most appropriate measure of center and variability, based on the shape of the data and the context of the problem; interprets the mean absolute deviation; identifies issues in misleading data displays

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				measures of variability	