

Achievement Level Descriptors
Grade 6 Mathematics

Achievement Levels and Achievement Level Descriptors

With the implementation of the Missouri Learning Standards (MLS) educators have developed four achievement levels to describe student mastery and command of the knowledge and skills outlined in the MLS content expectations. Most students have at least some knowledge of the content described in the content expectations; however, achievement levels succinctly describe how much mastery a student has. Achievement levels give meaning and context to scale scores by describing the knowledge and skills students must demonstrate to achieve each level.

The four achievement levels on MLS are Below Basic, Basic, Proficient and Advanced. The general meaning of each of the four levels is provided below:

Below Basic students do not yet demonstrate proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in the MLS. 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 students demonstrate partial proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in the MLS. 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 students demonstrate proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in the MLS. The students ***are prepared*** for the next grade level or course and are on track for college and career readiness.

Advanced students demonstrate advanced proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in the MLS. The students ***are well prepared*** for the next grade level or course and are well prepared for college and career readiness.

More detailed and content-specific concepts and skills are provided for each grade, content area, and course in the **Achievement Level Descriptors** (ALDs). ALDs are narrative descriptions of the knowledge and skills expected at each of the four achievement levels and were developed for each grade level, content area, and course. The ALDs are based on the state-adopted content expectations.

ALDs show a progression of knowledge and skills for which students must demonstrate competency across the achievement levels. It is important to understand that a student should demonstrate mastery of the knowledge and skills within his/her achievement level *as well as all content and skills in any achievement levels that precede his/her own, if any*. For example, a Proficient Learner should also possess the knowledge and skills of a Below Basic and Basic student.

ALD	Domain	Below Basic	Basic	Proficient	Advanced
Policy		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. These students need substantial academic support to be prepared for the next grade level or course and to be on track for <i>college and career readiness</i> .	Basic demonstrate partial proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in content expectations. These students need additional academic support to ensure success in the next grade level or course and to be on track for <i>college and career readiness</i> .	Proficient demonstrate proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in content expectations. These students are prepared for the next grade level or course and are on track for <i>college and career readiness</i> .	Advanced demonstrate advanced proficiency in the knowledge and skills necessary at this grade level/course of learning, as specified in content expectations. These students are well prepared for the next grade level or course and are well prepared for <i>college and career readiness</i> .
		A student who achieves at the Below Basic level demonstrates minimal command of the grade-level expectations.	A student who achieves at the Basic level demonstrates partial command of the grade-level expectations.	A student who achieves at the Proficient level demonstrates proficiency of the grade-level expectations.	A student who achieves at the Advanced level demonstrates advanced proficiency of the grade-level expectations.
Range	Ratios and Proportional Relationships	Calculates common percents of given whole numbers, and determines appropriate unit rates from given values.	Understands ratio concepts as dividend/divisor relationships, percentages, and relationships between rates of measure; uses ratio reasoning to solve problems; and converts measurement units given the conversions.	Understands ratio and rate concepts as comparisons; and uses ratio, rate and percent reasoning to solve problems; and uses ratios to convert measurement units to solve problems.	Understands ratio concepts as a symbolic comparison, using division and multiplication by reciprocals, percentages and fractions of percentages, and measurement conversions; understands the concept of unit rate and uses rate and ratio language to communicate reasoning; and manipulates units to interpret quantities.

ALD	Domain	Below Basic	Basic	Proficient	Advanced
	The Number System	Calculates values using the four operations on whole numbers, and orders integers on a number line.	Calculates values using the four operations on positive rational numbers, orders rational numbers on a number line, and plots points on the Cartesian coordinate plane.	Calculates values using the four operations on rational numbers, finds least common multiples and greatest common factors, orders rational numbers, understands the use of the negative sign and absolute value in terms of the context of problems, and solves problems involving plotting points on the Cartesian coordinate plane.	Represents operations on rational numbers in multiple ways, analyzes and applies previous understanding of numbers to the system of rational numbers in real-world contexts, and interprets inequalities and absolute values with respect to number lines.
Range	Expressions and Equations	Reads and evaluates numeric expressions, and calculates values in a one-variable expression.	Reads and evaluates expressions with variables and whole number exponents, solves single-step one-variable equations, and tests inequalities, given a set.	Writes expressions with whole-number exponents; applies properties of operations to write equivalent expressions and equations; writes inequalities, given constraints; and represents and analyzes relationships between variables.	Compares and interprets expressions with variables and whole-number exponents; understands and interprets expressions, equations, and inequalities in real-world contexts; interprets relationships between dependent and independent variables in real-world contexts.
	Geometry	Calculates the area of rectangles and the surface area and volume of cubes given the formulas.	Calculates the area of right triangles and surface area and volume of prisms given the formulas, and draws polygons in the Cartesian coordinate plane.	Solves word problems involving the area of polygons and involving the surface area and volume of three-dimensional objects with polygonal faces represents three-dimensional surfaces using nets and finds lengths of polygonal sides drawn in the Cartesian coordinate plane.	Solves multistep real-world word problems involving the area of polygons and involving the surface area and volume of three-dimensional objects.

ALD	Domain	Below Basic	Basic	Proficient	Advanced
	Statistics and Probability	Calculates the mean and median of a given data set, and solves one-step problems given a data display.	Recognizes a statistical question; and finds the minimum, first quartile, third quartile, maximum, and interquartile range.	Describes the nature and distribution of data in terms of shape, center, spread, and the number of observations; creates appropriate data displays and uses them to solve problems; calculates the mean absolute deviation; and understands the relationships between measures of center and measures of spread.	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; and identifies issues in misleading data displays.