Achievement Level Descriptors

Grade 5 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.

Grade 5

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 *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. These 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. These 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. These students are well prepared for the next grade level or course and are well prepared for *college and career readiness.*
		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	**Operations and Algebraic Thinking**	Generates a numerical pattern.	Evaluates numerical expressions, and generates numerical patterns from rules.	Evaluates numerical expressions using parentheses, brackets, or braces; and compares numerical patterns in tables and by graphing.	Interprets numerical expression by inspection, and generates a rule from a numeric pattern.
	Number and Operations – Base Ten	Reads and writes decimals to the thousandths, and multiplies multi-digit numbers.	Compares decimals to the thousandths, and applies the four operations to decimals to the hundredths.	Recognizes the directional characteristics of place value, rounds decimals, and uses whole number exponents to denote powers of ten.	Uses place value understanding to interpret the standard algorithm of multiplication, interprets the expanded form of numbers and the rules of rounding multi-digit decimals.

Grade 5

ALD	Domain	Below Basic	Basic	Proficient	Advanced
Range	Number and Operations – Fractions	Adds and subtracts fractions with like denominators, and multiplies fractions.	Adds, subtracts and multiplies fractions; solves one-step word problems with fractions; and multiplies fractions by whole numbers.	Solves word problems with the four operations on fractions, mixed numbers and whole numbers; recognizes fractions as numerator divided by denominator; solves problems with areas of rectangles with fractional side lengths; describes multiplication as scaling; represents division of fractions by dividing unit fractions by whole numbers and dividing whole numbers by unit fractions.	Interprets fractions as numerator divided by denominator; understands, interprets, and represents multiplication as scaling with respect to fractions > 1 and < 1; interprets division of fractions by dividing unit fractions by whole numbers and dividing whole numbers by unit fractions; and uses visual models to add and subtract fractions and mixed numbers
	Measurement and Data	Calculates one-step conversions from a larger unit to a smaller unit given the conversion factor, and calculates the volume of rectangular prisms.	Calculates one-step conversions within a system given the conversion factor; creates line plots; and recognizes the differences between perimeter, area and volume; and calculates the values given the formulas.	Calculates conversions within a system and solves problems; interprets information in line plots; identifies and represents volume as an attribute of three-dimensional objects; solves problems involving volume, area and perimeter; and recognizes volume as additive.	Interprets multiple characteristics of line plots; represents, compares, and analyzes volume as an attribute of three-dimensional objects; and finds missing side lengths with a given volume.
	Geometry	Plots points on the coordinate plane, and identifies two-dimensional figures.	Classifies shapes according to their attributes.	Creates and uses a first quadrant Cartesian coordinate plane to solve problems, and recognizes and classifies two-dimensional figures with a hierarchy.	Interprets information presented on a Cartesian coordinate plane in the context of real world applications, and uses hierarchies to organize figures in multiple ways.