Mathematics – Mastery Expectations
Grade 7

	Number Sense and Operations
8.N.1	Identify and understand fractions, decimals, and percents.
8.N.2	Compare, Order, and locate decimals and fractions on a number line. Introduced to square roots and irrational numbers.
8.N.3	Develop, analyze, and explain problems involving similar figures, ratios, proportions, and percents.
8.N.4	Interpret various forms of notations when expressed in standard and scientific notation.
8.N.5	Express numbers as the product of their factors, in prime factorization form; find multiples and recognize prime numbers.
8.N.6	Recognize absolute value.
8.N.7	Estimate square roots of numbers up to 144. Use positive integer exponents.
8.N.8	Demonstrate an understanding of the properties of arithmetic operations on rational numbers.
8.N.9	Use the inverse relationships of integers; square and find square roots.
8.N.10	Estimate and compute with fractions, integers, decimals, and percents.
8.N.11	Determine when an estimate is the most appropriate answer.
8.N.12	Select and use appropriate operations to solve problems.
	Patterns, Relations, and Algebra
8.P.1	Represent, analyze, and generalize a variety of patterns with tables, graphs, words, and symbolic expressions.
8.P.2	Evaluate simple algebraic expressions for given variable values.
8.P.3	Demonstrate an understanding of multiplying by negative one.
8.P.4	Use linear models to interpret algebraic expressions, write word phrases; create tables and represent it graphically.
8.P.5	Use a scatter plot to identify rate of change and relate that to steepness.
8.P.6	Identify the roles of variables within an equation.
8.P.7	Set up and solve linear equations and inequalities with one variable.
8.P.8	Explain and analyze how a change in one variable results in a change in another variable.
	Geometry
8.G.1	Analyze, apply, and explain the sums of the interior angle measures of polygons.
8.G.2	Classify figures in terms of congruence and similarity.
8.G.3	Demonstrate an understanding of pairs formed by intersecting lines.
8.G.4	Demonstrate an understanding of the Pythagorean Theorem.
8.G.6	Predict, identify, and sketch the results of transformations on unmarked planes.
8.G.7	Identify and define two-dimensional figures by their physical appearance.
	Measurement
8.M.1	Select and convert measurements.
8.M.3	Apply formulas and procedures for determining measures, including those of area and perimeter/circumference of parallelograms, trapezoids, and circles.
8.M.4	Use ratio and proportion in the solution of problems by using cross products.
8.M.5	Use models, graphs, and simple formulas to solve simple problems involving the distance formula.
	Data Analysis, Statistics, and Probability
8.D.1	Describe the characteristics and limitations of a data sample; identify ways of selecting a sample.
8.D.2	Select, create, interpret, and utilize tabular and graphical representations of data.
8.D.3	Find, describe, and interpret appropriate measures of central tendency and range.
8.D.4	Use tree diagrams, tables, organized lists, fundamental counting principle to compute simple probabilities.