

<b>Mathematics – Mastery Expectations Grade 8</b>		
	<i>Note: * = No state testing</i>	
<b><i>Number Sense &amp; Operations</i></b>		
8N1	Read, write, compare and order rational numbers.	
8N2	Define, compare, order and apply irrational numbers.	
8N3	Solve problems involving similar figures, ratios, proportions, scale factors, rates and percents.	
8N4	Solve problems using exponential and scientific notation.	
8N5	Apply prime factorization and relatively prime numbers.	
8N6	Apply absolute value.	
8N7	Solve problems with integer exponents and square roots.	
8N8	Use the distributive property and identify properties to solve problems.	
8N9	Simplify computations by inverse relationships of $\pm$ , $*/\div$ , squaring/square roots.	
8N10	Compute and simplify fractions, decimals, percents and integers.	
8N11	Estimate vs. exact answer in problem solving.	
8N12	Solve problems with rational numbers.	
<b><i>Patterns, Relations &amp; Algebra</i></b>		
8P1	Extend, represent and analyze patterns with tables, graphs and symbolic expressions.	
8P2	Evaluate simple algebraic expressions for given values.	
8P3	Demonstrate an understanding of the multiplicative property of negative one.	
8P4	Interpret algebraic expressions: write them in word phrases, create tables and graphs.	
8P5	Identify slope as steepness of a line and as a constant rate of change and solve problems.	
8P6	Identify the roles of variables within algebraic and geometric equations.	
8P7	Solve linear equations and inequalities with one or more variables.	
8P8	Explain and analyze how a change in one variable affects another variable.	
8P9	Use linear equations to model and analyze proportional relationships.	
8P10	Visually identify x and y intercepts in tables and graphs and represent linear growth patterns.	
<b><i>Geometry</i></b>		
8G1	Explain relationship between number of sides / sums of interior / exterior $\angle$ measures of polygons	
8G2	Solve problems using congruence and similarity.	
8G3	Understand relationship of angles formed by intersecting lines, parallel lines cut by a transversal.	
8G4	Apply the Pythagorean theorem to solve problems.	
8G5	Use straight edge, compass and other tools to draw geometric figures.	
8G6	Predict how tessellations transform under translations, reflections and rotations.	
8G8	Draw nets, projections and perspective drawings.	
<b><i>Measurement</i></b>		
8M2	Convert from one measurement to another.	
8M3	Determine the surface area and volume of rectangular prisms, cylinder and spheres.	
8M4	Use ratio and proportion with problems involving similar plain figures and indirect measurement.	
8M5	Use models, graphs and formulas to solve rates (velocity = speed).	
<b><i>Data Analysis, Statistics and Probability</i></b>		
8D2	Represent continuous and discrete data and compare using back to back stem and leaf, double box and whisker.	