

**2011-2012 CURRICULUM MAP
OHASHI - 8TH GRADE MATH**

	SEPT	OCT	Nov/DEC	JAN/FEB
CONTENT & UNIT TITLE	Symmetry and Transformations Mini Unit (no text)	Geometry Mini Unit (no text)	Linear Relationships "Thinking With Mathematical Models"	Square Roots and the Pythagorean Theorem "Looking For Pythagoras"
8 TH GRADE PERFORMANCE EXPECTATIONS	8.2.D Represent and explain the effect of one or more translations, rotations, reflections, or dilations (centered at the origin) of a geometric figure on the coordinate plane.	8.2.A Identify pairs of angles as complementary, supplementary, adjacent, or vertical, and use these relationships to determine missing angle measures. 8.2.B Determine missing angle measures using the relationships among the angles formed by parallel lines and transversals. 8.2.C Demonstrate that the sum of the angle measures in a triangle is 180 degrees, and apply this fact to determine the sum of the angle measures of polygons and to determine unknown angle measures.	8.1.A Solve one-variable linear equations. 8.1.B Solve one- and two-step linear inequalities and graph the solutions on the number line. 8.1.C Represent a linear function with a verbal description, table, graph, or symbolic expression, and make connections among these representations. 8.1.D Determine the slope and y-intercept of a linear function described by a symbolic expression, table, or graph. 8.1.E Interpret the slope and y-intercept of the graph of a linear function representing a contextual situation. 8.1.F Solve single- and multi-step word problems involving linear functions and verify the solutions. 8.1.G Determine and justify whether a given verbal description, table, graph, or symbolic expression represents a linear relationship.	8.2.E Quickly recall the square roots of the perfect squares from 1 through 225 and estimate the square roots of other positive numbers. 8.2.F Demonstrate the Pythagorean Theorem and its converse and apply them to solve problems. 8.2.G Apply the Pythagorean Theorem to determine the distance between two points on the coordinate plane. 8.4.D Identify rational and irrational numbers.
KEY VOCABULARY	Clockwise Congruent Counterclockwise Dilation Hexagon Image Octagon Parallelogram Pentagon Regular Polygon Reflection Rotation Symmetry Transformation Translation	Adjacent Angles Complementary Angles Corresponding Angles Intersecting Lines Parallel Perpendicular Supplementary Angles Transversal Vertical Angles	Constant Rate Coordinate Plane Equation Model Function Graph Model Horizontal Axis Inequality Intercept Line Graph Linear Equation Linear Function Ordered Pair Origin Scale (axis) Slope Table Model Trend Line y-intercept Variable Vertical Axis	Exponent Hypotenuse Irrational Number Perfect Square Power (exponent) Pythagorean Theorem Radical Rational Number Right Triangle Square Root
ESSENTIAL QUESTIONS	How can I use symmetry to describe the shapes and properties of figures in a design? What are some real life applications of the math we are learning?	What are the relationships between angles and how can I use those relationships to find other angles? What are some real life applications of the math we are learning?	What are linear relationships and how do you display them in different ways? What are some real life applications of the math we are learning?	What is the Pythagorean Theorem and how can it be used to solve problems? What are some real life applications of the math we are learning?

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	FEB	MAR	APR/MAY	MAY/JUNE	(IF TIME ALLOWS)		
CONTENT & UNIT TITLE	Laws of Exponents “Growing, Growing, Growing”	Probability & Counting Techniques Mini Unit (no text)	Data and Statistics “Samples and Populations”	Linear Systems and Inequalities “The Shapes of Algebra”	Quadratic Relationships “Frogs, Fleas, and Painted Cubes”		
8 TH GRADE PERFORMANCE EXPECTATIONS	<p>8.4 A Represent numbers in scientific notation, and translate numbers written in scientific notation into standard form.</p> <p>8.4 B Solve problems involving operations with numbers in scientific notation and verify solutions.</p> <p>8.4 C Evaluate numerical expressions involving non-negative integer exponents using the laws of exponents and the order of operations.</p> <p>8.4 D Identify rational and irrational numbers.</p>	<p>8.3 F Determine probabilities for mutually exclusive, dependent, and independent events for small sample spaces.</p> <p>8.3 G Solve single- and multi-step problems using counting techniques and Venn diagrams and verify the solutions.</p>	<p>8.3.A Summarize and compare data sets in terms of variability and measures of center.</p> <p>8.3.B Select, construct, and analyze data displays, including box-and-whisker plots, to compare two sets of data.</p> <p>8.3.C Create a scatter plot for a two-variable data set, and, when appropriate, sketch and use a trend line to make predictions.</p> <p>8.3.D Describe different methods of selecting statistical samples and analyze the strengths and weaknesses of each method.</p> <p>8.3.E Determine whether conclusions of statistical studies reported in the media are reasonable.</p>	<p>Alg1.1.C Solve problems that can be represented by a system of two linear equations or inequalities.</p> <p>Alg1.4.D Write and solve systems of two linear equations and inequalities in two variables.</p>	<p>Alg1.5.A Represent a quadratic function with a symbolic expression, as a graph, in a table, and with a description, and make connections among the representations.</p> <p>Alg1.5.B Sketch the graph of a quadratic function, describe the effects that changes in the parameters have on the graph, and interpret the x-intercepts as solutions to a quadratic equation.</p> <p>Alg1.5.C Solve quadratic equations that can be factored as $(ax + b)(cx + d)$ where $a, b, c,$ and d are integers.</p>		
KEY VOCABULARY	Exponent Irrational Number Law of Exponents Rational Number Scientific Notation Standard Form	Dependent Events Independent Events Mutually Exclusive Outcome Sample Space Venn Diagram	Box-and-Whisker Cluster Interquartile Range Lower Quartile Maximum Mean Measure of Center Median Minimum Mode Outlier	Population Quartile Random Sample Range Scatter Plot Stem-and-Leaf Survey Trend Line Upper Quartile Variability	Coordinate Plane Function Horizontal Axis Inequality Intercept Line Graph Linear Linear Equation Linear Function Linear Inequality Ordered Pair	Origin Scale (axis) Slope Trend Line Variable Vertical Axis	Constant Exponent Factor Factored Form Like Terms Line of Symmetry Quadratic Parabola
ESSENTIAL QUESTIONS	What properties do exponents have and how can I use those properties to simplify or solve problems? What are some real life applications of the math we are learning?	How can I calculate the probability of an event occurring? How can I count the number of combinations/permutations in a situation efficiently? What are some real life applications of the math we are learning?	What strategies can I use to collect, analyze, and interpret data? What are some real life applications of the math we are learning?	How can I use a system of equations to represent and solve a situation? What are some real life applications of the math we are learning?	What are quadratic relationships and how do I represent them in different ways? What are some real life applications of the math we are learning?		