PRESCOTT UNIFIED SCHOOL DISTRICT
District Instructional Guide
Date Revised __June 2, 2015____

Grade Level: 8	Subject: Pre-Algebra	Time: Quarter 1	Core Text: Glencoe Math CCSS

Time	Topic	Content (Nouns)	Skills (Verbs)	Standards
4 weeks	Number System	Base Cube Root Exponent Irrational Number Monomial Perfect Cube Perfect Square Power Radical Sign Rational Number Repeating Decimal Scientific Notation Square Root Terminating Decimal	-Write rational numbers as decimals and decimals as fractions -Use powers and exponents to write large and small numbers -Simplify real number expressions by multiplying and dividing monomials -Use laws of exponents to find powers of monomials -Solve problems by using the four-step plan -Write and evaluate expressions using negative exponents -Use scientific notation to write large and small numbers -Compute with numbers written in scientific notation -Interpret scientific notation when using technology -Find square roots and cube roots -Estimate square roots of non-perfect squares -Use roots to estimate solutions -Compare mathematical expressions	**8.NS.A.1.** **8.NS.A.2.** **8.EE.A.1.** **8.EE.A.2.** **8.EE.A.3.** **8.EE.A.4.**
2 weeks	Expressions and Equations in one variable	Coefficient Identity Multiplicative inverse Null set Properties Two Step equation	-Solve equations with rational coefficients -Solve two-step equations -Write two-step equations that represent real-world situations -Solve problems by working backwards -Solve equations with variables on each side -Solve multi-step equations	**8.EE.C.7.**
2 weeks	Equations in two variables	Constant of proportionality Constant of variation Constant rate of change direct variation linear relationships point-slope form rise run slope slope-intercept form standard form substitution x-intercept y-intercept	-Identify proportional and nonproportional linear relationships by finding a constant rate of change -Find the slope of a line -Use direct variation to solve problems -Graph linear equations using the slope and dy-intercept -Graph a function using the x- and y-intercepts - Use guess and check to solve problems -Write the equation of a line -Solve systems of equations by graphing -Solve systems of equations algebraically	**8.EE.B.5** **8.EE.B.6** **8.EE.C.8** **8.F.A.2.** **8.F.A.3.** **8.F.B.4.** **8.F.B.5.**

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Grade Level:8	Subject: Pre-Algebra	Time: Quarter 2	Core Text: Glencoe Math CCSS

Time	Topic	Content (Nouns)	Skills (Verbs)	Standards
8 weeks	Functions	Continuous Data Dependent variable Discrete data Domain Range Function Function Table Independent variable Linear equation Linear function Nonlinear function Quadratic function qualitative graphs relation	-Translate tables and graphs into linear equations -Use the coordinate plane to represent relations -Determine whether a relation is a function -Find function values and complete function tables -Represent linear functions using function tables and graphs and determine whether a set of data is continuous or discrete -Solve problems by making a table -Compare properties of functions -Determine and interpret the rate of change and initial value of a function -Determine whether a function is linear or nonlinear -Graph quadratic functions -Use a graphing calculator to graph families of nonlinear functions -Sketch and describe qualitative graphs	**8.F.A.1.** **8.F.A.2.** **8.F.A.3.** **8.F.B.4.** **8.F.B.5.**

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Grade Level:	Subject:	Time: Quarter 3	Core Text: Glencoe Math CCSS

Time	Topic	Content (Nouns)	Skills (Verbs)	Standards
3 weeks	Triangles and the Pythagorean Theorem	Alternate exterior angles Alternate interior angles Converse Corresponding Angles Deductive reasoning Distance formula equiangular Exterior angles Formal proof Hypotenuse Inductive reasoning Informal proof Interior angles legs paragraph proof parallel lines perpendicular lines polygon proof Pythagorean Theorem regular polygon remote interior angles theorem transversal triangle two-column proof	-Examine angle relationships formed by parallel lines and a transversal -Identify relationships of angles formed by two parallel lines -Write geometric proofs -Explore the relationship among the angles of a triangle -Find missing angle measures in triangles -Find the sum of the angle measures of a polygon and the measure of one interior angle of a regular polygon -Solve problems by using the look for a pattern strategy -Find the relationship among the sides of a right triangle -Use the Pythagorean Theorem -Prove the Pythagorean Theorem and its converse -Solve problems using the Pythagorean theorem -Find the distance between two points on the coordinate plane	8.G.A.5. 8.G.B.6. 8.G.B.7. 8.G.B.8. 8.EE.A.2.
3 weeks	Transformations	Angle of rotation Center of Dilation Center of rotation Image Translation Rotation Reflection Dilation Congruent figures Similar figures Corresponding parts Line of Reflection	-Identify and apply flips, slides, and turns -Graph translations on the coordinate plane -Graph reflections on the coordinate plane -Solve problems by looking for a pattern -Identify rotational symmetry -Graph rotations on the coordinate plane -Identify Dilations -Use scale factor to graph dilations	8.G.A.1. 8.G.A.3. .

		Preimage Rotational symmetry Transformation		
2 weeks	Congruence and Similarity	Composition of transformations corresponding parts indirect measurement Scale Factor Similar Similar polygons	-Draw compositions of translation, reflections, and rotations -Use a series of transformations to create congruent figures -Determine which three pairs of corresponding parts can be used to show that two triangles are congruent -Write congruence statements for congruent figures -Solve problems by drawing a diagram -Investigate properties of similar triangles -Use transformations to create similar figures -Identify similar polygons and find missing measures of similar polygons -Solve problems involving similar triangles -Relate the slope of a line to similar triangle -find the relationship between perimeters and areas of similar figures	**8.G.A.1.** **8.G.A.2.** **8.G.A.4.** **8.G.A.5.** **8.EE.B.6**:

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Grade Level:	Subject:	Time: Quarter 4	Core Text: Glencoe Math CCSS

Time	Topic	Content (Nouns)	Skills (Verbs)	Standards
3 weeks	Surface Area Volume	Composite solids Hemisphere Prisms Pyramids Cones Cylinders Lateral area Net Polyhedron Similar Solids Sphere Total Surface Area Volume	-Determine how some three-dimensional figures are related to circles -Find the volumes of cylinder -Find the volume of cones -find the volume of spheres -Solve a simpler problem -Find the surface area of cylinders using models and nets -Find the surface area of cylinders -Justify the formula for the surface area of a cone by using a net -find the surface area of cones -Determine how changes in dimensions affect area and volume -Solve problems involving similar solids	8.G.C.9.
3 weeks	Statistics and Probability	Bivariate data Distribution Five-Number summary Line of best fit mean absolute deviation qualitative data Quantitative data Relative frequency Scatter Plot Standard deviation Two-Way table Univariate data	-Use a scatter plot to investigate the relationship between two sets of data -Construct and make conjectures about scatter plots -Use models to make predictions -Draw lines of best fit and use them to make predictions about data -Use technology to describe associations in scatter plots -Construct and interpret two-way tables -Solve problems by using a graph -Find the measures of center and variation -Find and interpret the mean absolute deviation for a data set -Analyze data distributions	8.SP.A.1. 8.SP.A.2. 8.SP.A.3. 8.SP.A.4.