Coordinate Algebra

Unit 1 Relationships between Quantities **Standards: N.Q, A.SSE, A.CED** **60% of Milestone**	• **Review of MS standards**: expressions; conversions; solving multi-step equations/inequalities; graphing linear functions; solving system of equations • **New**: graphing 2-variable inequalities; system of inequalities; introduction to exponential functions • **Strategies**: hands-on investigation of exponentials with multiple representations & 2-variable inequalities-use of graphing calculators; compare/contrast graphic organizers; visual representations with the abstract; mini-lessons/flipped classroom of MS Standards
Unit 2: Reasoning With Equations & Inequalities **Standards: A.REI** **60% of Milestone**	• **Review of MS Standards**: solving linear equations/inequalities in 1 and 2 variables; solve/graph system of equations • **Review of Unit 1**: solving/graphing a system of inequalities • **New**: students focus on the reasoning & justifying of solutions, as well as interpretation • **Strategies**: graphic organizer for solving systems; interactive applets; performance tasks; writing structure and transition words for explanations; mini-lessons/flipped classroom of MS standards; investigation with graphing calculators
Unit 3: Linear & Exponential Functions **Standards: A.REI; F.IF; F.BF; F.LE** **60% of Milestone**	• **Review of MS Standards:** linear & non-linear functions; linear functions (table, graph, equations, context) • **Review of Unit 1:** exponential functions • **New**: function notation; characteristics of linear & exponential functions; building functions; arithmetic/geometric sequences • **Strategies:** compare/contrast graphic organizers; visual representations; hands-

	on/technology investigations-use of graphing calculator; performance tasks; use of video lessons-learn zillion; use of 3-Act Plays; use mini-lessons/flipped classroom for previously learned standards
Unit 4: Describing Data **Standards: S.ID; SP** **15% of Milestone, but reinforces the Algebra (60% of Milestone)**	• **Review of MS Standards:** measures of variation & center; MAD; box & whisker plots; scatter plots & correlation; estimated line of best fit; shape/center/spread & skewness; 2-way tables • **New:** linear & exponential regression; residuals; correlation/causation; joint, marginal & conditional relative frequencies; correlation coefficient • **Strategies:** investigations with applets, graphing calculators; use of TI-36xpro/graphing calculators for regressions/stats/residuals; visuals for interpretation of shape/spread; concept attainment organizers; graphic organizers to compare/contrast; performance tasks
Unit 5: Transformations in the Coordinate Plane **Standards: G.CO** **25% of the Milestone**	• **Review of MS Standards:** basic transformations on the coordinate plane • **New:** algebraic formulas of transformations; • **Strategies:** applets; geometer's sketchpad; manipulatives; performance tasks; graphic organizers; guided notes; investigation with graphing calculators
Unit 6: Connecting Algebra & Geometry Through Coordinates **Standards: G.GPE** **25% of the Milestone, but reinforces the Algebra (60% of the Milestone)**	• **Review of MS Standards:** Pythagorean Theorem & distance; parallel lines on the coordinate plane; slope • **New:** distance formula; partition line segments; perpendicular lines on the coordinate plane (equations of lines), as well as parallel lines • **Strategies:** compare/contrast organizer; applets; 3-Act Task; performance tasks; investigation with graphing calculators

Milestone Calculators: Online administration: TI 84 online calculator + may use a handheld (suggest the TI-36xpro); paper/pencil may use 1 handheld (TI 84 or scientific)