Mathematics Geometry Year-Long Curriculum Map

11" x 17"

Sequential

Inquiry Modules	Critical Focus Areas	Student Focal Points	Sense-Making CONCEPTS Standards	Sense-Making STRATEGIES Standards	Sense-Making APPLICATION/ MODELING Standards
A. Congruence, Proof, and Constructions	• Geometry – Properties of two & three dimensional figures • Geometry – Understanding Transformations • Geometry – Constructing and evaluating arguments about figures	1) Experimenting with and understanding transformations of various figures in the plane 2) Understanding congruence in terms of rigid motions 3) Proving geometric theorems using various formats 4) Making and justifying geometric constructions	G.CO.1 G.CO.2, G.CO.4, G.CO.5 G.CO.12	G.CO.13 G.CO.3, G.CO.6 G.CO.8, G.CO.7	G.CO.8 G.CO.9, G.CO.10, G.CO.11
B. Similarity, Proof, and Trigonometry	• Geometry – Constructing and Evaluating Arguments about Figures • Geometry – Understanding Transformations • Geometry – Modeling Situations using Geometric Concepts • Geometry – Properties of Two and Three Dimensional Figures	1) Understanding similarity in terms of dilations and rigid motions 2) Proving theorems involving similarities 3) Defining trigonometric ratios, finding relationships amongst them, and solving problems involving right triangles in context 4) Applying trigonometric ratios in modeling situations	G.SRT.4 G.SRT.3, G.SRT.6, G.SRT.7	G.SRT.1, G.SRT.2	G.SRT.1 G.SRT.5, G.SRT.4, G.SRT.10(+) G.SRT.8, G.MG.2, G.MG.3, G.SRT.9(+), G.SRT.11(+) G.MG.1
C. Extending to Three Dimensions	• Geometry – Properties of Two and Three Dimensional Figures	1) Explaining volume formulas and using them to solve problems in context 2) (+)Comparing lengths, areas, and volumes using scale factors in similar shapes 3) Visualizing the relationship between two-dimensional and three-dimensional objects, including cross sections and rotations 4) Applying two- and three-dimensional concepts, as well as trigonometry, in modeling situations	G.GMD.1, G.GMD.4		G.GMD.3, G.MG.1
D. Connecting Algebra and Geometry Through Coordinates	• Coordinate Geometry to Connect Algebra and Geometry	1) Using coordinates to prove simple geometric theorems algebraically 2) Converting between the geometric description and the equation for a conic section		G.GPE.6	G.GPE.4, G.GPE.5, G.GPE.7, G.GPE.2

Sequential

E. Circles with and without Coordinates	• Geometry – Constructing and Evaluating Arguments about Figures • Geometry – Coordinate Geometry to Connect Algebra with Geometry • Geometry – Properties of Two and Three Dimensional Figures	1) Understanding, proving, and applying theorems about circles 2) Deriving an understanding, based on similarity, of how to find the arc lengths and areas of sectors of circles 3) Converting between the geometric description and the equation for a circle, derived and rearranged algebraically to communicate features 4) Using coordinates to prove geometric theorems algebraically, including simple proofs involving circles 5) Applying the analysis of circles in modeling situations	G.C.2, G.C.5 G.MG.1	G.MG.1	G.C.1, G.C.3, G.C.4 G.GPE.4
F. Applications of Probability	• Statistics and Probability – Analyzing Data • Statistics and Probability – Using Probability as a Tool of Statistics	1) Understanding independence and conditional probability and using them to interpret data 2) Using the rules of probability to compute probabilities of compound events in a uniform probability model	S.CP1 S.CP.2, S.CP.3, S.CP.5, S.MD.7	S.CP4 S.CP.6, S.CP.9	S.CP.7, S.CP.8, S.MD.6