Geometry Curriculum Bundle #9

Title	Suggested Dates
Area & Perimeter, Intro to Three Dimensional Figures	February 22 – March 12 (15 days)

Big Idea/Enduring Understanding	Guiding Questions
The formulas for the areas of triangles and quadrilaterals are related.	1. How are the area formulas derived? 2. Given the area how do you determine missing parts? 3. What is the difference between orthographic and isometric drawings?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the District Curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)	
G.5 Geometric Patterns. The student uses a variety of representations to describe geometric relationships and solve problems. G.5A The student uses numeric and geometric patterns to develop algebraic expressions representing geometric properties.	• Formulas for area and perimeter of polygons • Formulas for area and circumference of a circle	**Discovering:** 8.1 – 8.5 **Holt**: 9.1, 9.2 .	**Geometry LTF**: p. 234, 204 **Dana Center**: Ch. 4 – Area, etc **A&M:** Ch 9 (Fall) **A&M:** Ch 4 (Spring) From mathopenref.com Area of polygon
G.8 Congruence and the Geometry of Size. The student uses tools to determine measurements of geometric figures and extends measurement concepts to find area, perimeter, and volume in problem situations. G.8A The student finds areas of regular polygons, circles, and composite figures.	• Derive formulas from patterns • Find perimeter/circumference of regular polygons, circles, and composite figures • Find area of regular polygons, circles & composite figures. • Apply to real world situations.	**Holt:** 9.3, 9.4	**A&M**: Ch 1,4 (Spring) From mathopenref.com Interior angles
G.3 Geometric Structure. The student applies logical reasoning to justify and prove mathematical statements. G.3B The student constructs and justifies statements about geometric figures and their properties.	• The use of manipulatives, concrete modeling such as folding nets of same shape and different sizes, and technology to draw conclusions about geometric figures	**Discovering:** 8.6 & 8.7 **Holt** 10.1, 10.2	**A&M**: Ch 4 (Spring)

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G.6 Dimensionality and the Geometry of Location. The student analyzes the relationship between three-dimensional geometric figures and related two-dimensional representations and uses these representations to solve problems. G.6B The student uses nets to represent and construct three-dimensional geometric figures.	• Relate the two-dimensional representation of a three-dimensional object and be able to sketch it. • Use these different representations of 3-D objects to solve problems, such as surface area & volume.		**Dana Center**: Ch. 5 – Solids & Nets **A&M:** Ch 2,3,5 (Spring) Isometric drawing NCTM
G.6 Dimensionality and the Geometry of Location. The student analyzes the relationship between three-dimensional geometric figures and related two-dimensional representations and uses these representations to solve problems. G.6C The student uses orthographic and isometric views of three-dimensional geometric figures to represent and construct three-dimensional geometric figures and solve problems.	• Use unit blocks to build and explore different concrete models • Draw isometric views that show one view of the three sides; isometric dot paper will be a good tool. • Draw orthographic views that provide three separate drawings to show the sides (all views) • Include effect on perimeter, surface area and volume when adding or subtracting parts with blocks only.	**Discovering:** Orthographic Drawing, p.539, 11.5 **Holt**: 9.5	**A&M**: Ch 2 (Spring) Mathsnet.net solids
G.1 Geometric Structure. The student understands the structure of, and relationships within, an axiomatic system. G.1B The student recognizes the historical development of geometric systems and knows mathematics is developed for a variety of purposes.	• The discovery of Pi and it's applications (grade 6)	**Discovering**: 6.5, 6.6, 8.5 **Holt**: p. 598	**Geometry LTF**: p. 306 **A&M**: Ch 4 (Spring) From mathopenref.com circles
G.11 Similarity and the Geometry of Shape. The student applies the concepts of similarity to justify properties of figures and solve problems G.11D The student describes the effect on perimeter, area, and volume when one or more dimensions of a figure are changed and applies this idea in solving problems.	• The relationship of the linear measurements to the quadratic (area) and cubic (volume) measurements of a figure.	**Holt:** 9.5 with pgs. 683, 691, 700, 708, 716	