

Unit Plan Template

UNIT: Similarity, Circumference, Area, and Volume TIME FRAME: 3 Months

TEACHER: Mark Gardella

Unit Summary and Rationale:

Understand similarity in terms of similarity transformations.
Prove theorems involving similarity.
Translate between the geometric description and the equation for a conic section.
Find arc lengths and areas of sectors of circles.
Explain volume formulas and use them to solve problems.
Visualize relationships between two dimensional and three-dimensional objects.
Apply geometric concepts in modeling situations.

Unit Standards: Teachers should list the standards to be addressed within the unit.

HSG-SRT.A.2, HSG-MG.A.3, HSG-SRT.A.3, HSG-SRT.B.5, HSG-SRT.B.4, HSG-GPE.B.5, HSG-MG.A.1, HSG-GPE.B.6, HSG-GMD.A.1, HSG-C.B.5, HSG-CO.A.1, HSG-MG.A.2, HSG-GMD.A.3, HSG-GMD.B.4, HSG-GMD.A.2

Learning Tasks: Teachers list the various tasks students will engage in throughout the unit. (Content) – Should be separated by Reading Tasks, Writing Tasks, Discussion Tasks, and Language/Vocabulary Tasks.

Practice Worksheet A and B
Puzzle Worksheets
Whiteboard review activity
Basic Skills Review WS

Skills: These are what the students need to be able to do in relation to the tasks. These skills are translated statements from the standards and represent measurable verbs, instructional targets, and descriptors for the sake of consistency across teachers in the same content area and grade level.

- given two figures, determine, using transformations, if they are similar.
- explain, using similarity transformations, the meaning of similarity for triangles.
- explain Angle-Angle criterion and its relationship to similarity transformations and properties of triangles.
- prove geometric relationships in figures using criteria for triangle congruence.
- solve problems using triangle congruence criteria (SSS, ASA, SAS, HL).
- solve problems using triangle similarity criteria (AA).
- identify cross-sections of three dimensional objects.
- identify three-dimensional objects

	<p>generated by rotation of two-dimensional objects.</p> <ul style="list-style-type: none"> ● solve problems using volume formulas for cylinders, pyramids, cones, and spheres. ● model real-world objects with geometric shapes. ● describe the measures and properties of geometric shapes that best represent a real world object. ● model real-world situations, applying density concepts based on area. ● model real-world situations, applying density concepts based on volume. ● design objects or structures satisfying physical constraint. ● design objects or structures to minimize cost. ● solve design problems.
<p>Key Terms / Vocabulary: Circumference, arc length, radian, sector of a circle, center of a regular polygon, radius of a regular polygon, apothem of a regular polygon, central angle of a regular polygon, polyhedron, face, edge, vertex, cross section, solid of revolution, axis of revolution, volume, density, similar solids, lateral surface of a cone, chord of a sphere, great circle</p>	
<p>Assessments: List types of assessments that will be used throughout the course of the unit. *If you do not have assessments for this unit, they should be created before moving on to the lesson design* (Label Assessments as Diagnostic, Formative, or Summative)</p> <p>8.1-8.2 Quiz Chapter 8 Test 11.1-11.4 Quiz Chapter 11 Test</p>	
<p>Learning Activities: Any agreed upon activities/lesson plans can be listed here.</p> <p>Independent work Group work</p>	<p>Resources / Text Selections: (generated by both teacher and student?) Teachers will list the titles/genres for study:</p> <p>Big Ideas worksheets and online assignments</p>

Additional Notes: