GEOMETRY
GRADE LEVELS 9-11

#	Lesson	Lesson Content
1	Foundation of Geometry	Introduces basic geometric terms commonly used throughout the course. Postulates, theorems, hypotheses, and other definitions. Review of geometric problems.
2	Geometric Concepts	A review of geometric concepts including all types of angles, intersecting, perpendicular and parallel lines, rays and transversals.
3	Geometric Measurement	The use of a protractor in the measurement of angles and circles is discussed. A review of the measurement of line segments utilizing a pop up ruler that can be displayed in inches or centimeters.
4	Points, Lines Planes	Definition of points, lines, and plans, collinear points, points and lines as intersections.
5	Segments, Rays and Angles	Number lines and corresponding points, identification of segments, congruency and segments, averaging endpoints, definition and examples of rays, bisectors.
6	Angles	Identification of sides and vertices of angles, interior and exterior angle points, adjacent angles, acute, obtuse, and right angles, complementary and supplementary angles, linear pairs, vertical angles.
7	Transversals	Parallel and skew lines, parallel segments and planes, identification and examples of transversals, corresponding angles and transversals, alternate interior and exterior angles.
8	Parallelism	Rules for congruency in corresponding angles, alternate exterior and interior angles, transversals and parallelism.
9	Triangles	Identification and examples of acute, obtuse, and right angles, scalene, isosceles, equilateral and equiangular triangles, determining angles in triangles.
10	Congruent Triangles	Definition and examples of congruent triangles, comparing lines and angles in triangles, order in labeling angles and triangles, congruence statements, side-side-side, side-angle-side, angle-side-angle, angle-angle-side congruent triangles.
11	Triangles Inside and Out	Identification and examples of vertices, base angles, and congruent sides in isosceles triangles, comparing isosceles and equilateral triangles, exterior angles ad remote interior angles in triangles, comparing angles and drawing conclusions about measurement.
12	Review 1	Review of previous lessons.
13	Right Triangles 1	Parts of right triangles, legs, hypotenuse. Focus on 45-45-90 degree right triangles. Using the Pythagorean Theorem to solve geometric problems.
14	Right Triangles 2	Common right angles, 30-60-90 degree right triangles, patterns in calculating the hypotenuse of a right triangle.
15	Quadrilaterals	An examination of the properties of quadrilaterals including the concept of opposite, consecutive and adjacent sides, angles, and vertices.
16	Parallelograms	Definition and examples of quadrilaterals and parallelograms.
17	Special Parallelograms	Rectangles, rhombuses, squares, rectangle diagonals, rhombus diagonals, trapezoids, isosceles trapezoids, base angles and diagonals in trapezoids, finding parallels in triangles, finding medians in trapezoids.
18	Trapezoids	Examples of various trapezoids and rhombuses; angles and sides; calculating perimeters, examples of parallelism in trapezoids.
19	Areas of Polygons	Formulas for measuring the perimeter and volume and area of trapezoids,

		measuring surface area.
20	Conditional Statements	An examination of statements that can be derived from the manipulation of conditional statements. Topics include converse, inverse, contra positive and biconditional statements.
21	Review 2	Review of previous lessons.
22	Similar Polygons	Testing for congruency of quadrilaterals, similarity in polygons, proportional ratios, determining scale factors, proportionality, perimeters of polygons.
23	More About Polygons	Definition and examples of regular and irregular polygons. Identification of vertices and sides. Students identify polygons.
24	Area Revisited	Area of squares and rectangles, parallelograms and triangles, trapezoids, and regular polygons.
25	Solids 1	Prisms, pyramids and determining the areas and volumes.
26	Solids 2	Cylinders, cones, spheres; areas and volumes of similar solids
27	Circles	Arcs, chords, and central angles; circumference and area
28	Circles & Angles	Inscribed and interior angles, tangents, and angle measurement
29	Circles, Arcs, & Sectors	Arc lengths and sector area
30	Trigonometric Functions	The focus of this lesson is the basic principles of trigonometry and its relation to geometry, definition and examples of sine, cosine, tangent, and other trigonometric terms.
31	Review 3	Review of previous lessons
32	Comprehensive Exam	Test covering entire unit.