WEST SHORE SCHOOL DISTRICT

Pacing Guide: Geometry Grade 8

Week	Module
1 2 3	Essentials of Geometry
4 5 6 7	Reasoning and Proof
8 9 10 11	Parallel and Perpendicular Lines
12 13 14 15	Congruent triangles
16 17 18	Relationships within triangles
19 20 21 22	Similarity
23 24 25 26 27	Right triangles and trig
28 29 30	Quadrilaterals
31 32 33	Circles
34 35 36	Area, surface area, volume

WEST SHORE SCHOOL DISTRICT

Pacing Guide: Geometry Grade 8

Module 1- Essentials of Geometry (3 weeks)
Preview prior to unit (rational/irrational, terminate/repeating, properties of exponents, determine if a relation is a function, estimate irrational numbers to rational numbers)
Module 1- Undefined points, lines & planes, label points, lines & planes correctly, midpoint & distance formulas, complementary & supplementary angles, distinguish between polygons (regular, equilateral, equiangular), classify polygons by it sides.

Module 2- Reasoning & Proof (4 weeks)
Inductive Reasoning (conjecture, inductive reasoning counterexample), conditional statements (if-then, converse, inverse, contrapositive), Law of Detachment, Law of Syllogism, identify postulates illustrated by a diagram, solve equations & identifying the property used, two-column proofs (read & explain)

Module 3- Parallel & Perpendicular Lines (4 weeks)
Transversals (parallel lines, skew lines, parallel planes), corresponding angles, alternate interior & exterior angles, consecutive interior angles, slope, slope-intercept form, point-slope form, standard form

Module 4- Congruent Triangles (4 weeks)
Triangles (determine the missing angle measure), congruent figures, prove triangle congruence using CPCTC, congruence theorem of a pair of triangles, classify triangles with vocabulary as listed in module, angle sum theorem, exterior angle theorem, distance formula to prove triangles congruency

Module 5- Relationships within triangles (3 weeks)
Write & solve an equation using mid-segment theorem to solve for a variable, write & solve an equation to find the lengths of segments using perpendicular bisectors, angle bisectors & properties of medians and altitudes, determine a three part inequality to determine possible lengths of a third side when given two side lengths, write & solve an inequality to determine a relationship between corresponding parts using the Hinge Theorem

Module 6- Similarity (4 weeks)
Scale factor, similar polygons, solve proportions algebraically, use lengths of corresponding sides of similar figures to find unknown lengths within those figures, show that two triangles are similar using AA/SSS/SAS similarity, write & solve proportions to determine unknown segment lengths in diagrams by using proportionality theorems.

Module 7- Right Triangles & Trig (5 weeks)
Pythagorean Theorem, Pythagorean triple, analyzing results of using the converse of the Pythagorean theorem (right/obtuse/acute), set up & solve a proportion utilizing the geometric mean in order to find the length of the altitude drawn to the hypotenuse of a right triangle, solve for an unknown side of a special right triangle, set up & solve an equation involving sine, cosine or tangent to find an unknown side or angle if a triangle, determine the missing sides & angles of a right triangle in order to solve the triangle

Module 8- Quadrilaterals (3 weeks)
Use the angle sum theorem to compute the sum of the interior angles of a convex polygon, use angle sum theorem/exterior angle theorem to solve for the measure for one interior & exterior angle of a regular polygon, Determine & justify if a quadrilateral is a parallelogram, write & solve algebraic

equations utilizing properties of quadrilaterals & substitute the value back in to find the measure of the unknown angle or side, utilize slope/distance/midpoint formulas to determine which quadrilaterals is formed by four coordinates

Module 9- Circle (3 weeks)
Pythagorean Theorem to determine whether a segment is or not tangent to a circle, use circle measure, semicircles and the arc addition postulate to find the measures of unknown arcs, determine if two chords are congruent (use knowledge of theorems), solve for unknown values (use theorems of various angles of circles), solve for the measure of an unknown angle using theorems for an angle with its vertex on the center, on the inside or outside of circle, use theorems to identify type of segment & solve an equation to determine the unknown value

Module 10- Area/Surface Area/Volume (3 weeks)
Calculate arc length & area of a sector, use Pythagorean Theorem & trigonometric ratios to find needed lengths to calculate the area of polygons & surface area & volume of 3D figures

8th grade Standards to be addressed in this course:
Scientific Notation (estimate & perform operations)
Volume (cones, cylinders, spheres) in real world problems
Scatterplots for bivariate measurement data, identify a line of best fit within a scatterplot
Two way tables (construct & interpret), use relative frequencies for rows or columns to describe possible associations
Analyze & interpret bivariate data displayed in multiple representations
Understand that patterns of association can be seen in bivariate data utilizing frequencies