Geometry Grade 9 EWMMS

Unit 1: **Unknown Angles (15 days)**	**Unit 2** **Constructions (10 days)**	**Unit 3:** **Triangle Relationships (9days)**
Topics Lesson 1- Angle Information (Definitions) Lesson 2- Solving for Unknown Angles Lesson 3- Parallel lines cut by a Transversal Lesson 4- Angles in a Triangles Lesson 5- Exterior Angle Theorem Lesson 6- Mini Proofs (Parallel lines)	**Topics** Lesson 1- Constructing Equilateral Triangles Lesson 2- Copying Segments and Angles Lesson 3- Bisecting Segments and Angles Lesson 4- Bisecting a 60 Degree Angle in an Equilateral Triangle Lesson 5- Constructing Perpendicular Lines Lesson 6- Bisecting a 90 Degree Angle Lesson 7- Constructing Parallel Lines Lesson 8- Constructing Medians and Altitudes	**Topics** Lesson 1 - Intro to Concurrency Lesson 2 - Centroids Lesson 3 - Midsegment of a Triangle Lesson 4 - Pythagorean Theorem/Simplifying Radicals Lesson 5 - Triangle Inequalities

Unit 4: **Rigid Motion (18 days)**	**Unit 5:** **Congruence (14 days)**	**Unit 6:** **Dilations and Similarity (20 days)**
Topics Lesson 1-Reflections Lesson 2- Construction of Reflections Lesson 3 - Translations (Coordinate Plane) Lesson 4 - Translations (w/vector) Lesson 5 - Rotations (Coordinate Plane) Lesson 6 - Rotation about a point Lesson 7 - Construction of Rotations Lesson 8 - Symmetry Lesson 9 - Compositions	**Topics** Lesson 1 - Identifying Criteria for proving triangles congruent Lesson 2 - Mini Proofs Lesson 3 - SSS Lesson 4 - SAS Lesson 5 - ASA Lesson 6 - AAS Lesson 7 - HL Lesson 8 - Corresponding Parts Lesson 9 - Isosceles triangle proofs	**Topics** Lesson 1 - Dilations on a coordinate plane Lesson 2 - Similar triangles are in proportion Lesson 3 - Scale drawings using the center of dilation (2 days) Lesson 4 - Similar triangles and corresponding sides (2 days) Lesson 5 - Side splitter theorem lesson 6 - Mid-segment Lesson 7 - Similitude (area/.perimeter) Lesson 8 - Angle bisector theorem Lesson 9 - Similarity and transformations Lesson 10 - Dilating a line Lesson 11 - AA Proof (2 days) Lesson 12 - Word Problems (shadow) (2 days)

Unit 7: **3 Dimensional Figures (17 Days)**	**Unit 8:** **Quadrilaterals (12 days)**	**Unit 9:** **Coordinate Geometry (8 days)**
Topics Lesson 1 - Area of a polygon Lesson 2 - Area on a coordinate plane (calc) Lesson 3 - Volume of Prisms (2 days) Lesson 4 - Volume of a Pyramid Lesson 5 - Volume of a cylinder Lesson 6 - Volume of a cone Lesson 7 - Volume of s sphere Lesson 8 - Composition Lesson 9 - Density (2 days) Lesson 10 - Cross Section Lesson 11 - Rotations Lesson 12 - Cavailieri's Principle	**Topics** Lesson 1 - Parallelograms (2 days) Lesson 2 - Rectangle (2 days) Lesson 3 - Rhombus (2 days) Lesson 4 - Square (2 days) Lesson 5 - Trapezoid/Isosceles Trapezoid (2 days)	**Topics** Lesson 1 - Equation of a line : $y= mx +b$ and $y-_1 = m (x - x_1)$ Lesson 2 - Parallel and perpendicular lines Lesson 3 - Midpoint Lesson 4 - Perpendicular bisector Lesson 5 - Distance Lesson 6 - Directed line segment

Unit 10: **Coordinate Proof (7 days)**	**Unit 11:** **Trigonometry (9 days)**	**Unit 12:** **Circles (14 days)**
Topics Lesson 1 - Parallelogram Lesson 2 - Rectangle Lesson 3 - Square Lesson 4 - Rhombus Lesson 5 - Trapezoid/.Isosceles Trapezoid	**Topics** Lesson 1 - Introduction to triq ratios Lesson 2 - Solving for missing side Lesson 3 - Solving for missing angle Lesson 4 - Angle of elevation/depression Lesson 5 - Word problems (2 days) Lesson 6 - Co-functions	Topics Lesson 1 - Equation of a circle/graph Lesson 2 - Equation of a circle (completing the square) (2 days) Lesson 3 - Inscribe and central angles Lesson 4 - Arc length Lesson 5 - Area of a sector Lesson 6 - Angles formed by chords Lesson 7 - Angles formed by tangents and secants Lesson 8 - Length of chords Lesson 9 - Length of tangents and secants Lesson 10 - Circle Theorem