

Middlesex County Schools Curriculum Pacing Guide

Grade/Course Geometry

School Year 2011/2012

| Time Frame | Unit/SOLs | SOL # | Strand | Essential Knowledge/ Understandings | Date of Common Formative Assessment (i.e. Unit Tests/Benchmark Tests) |
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| 8 days | Basic Elements- Point, Line, Plane, Segment, Ray, Bisector, Segment Addition postulate, Congruency, Collinear, Noncollinear, Coplanar, Intersection | G.2a; G.11, Set foundation G.7 | | <p>Construct a line segment congruent to a given line segment; Construct the bisector of a line segment</p> <p>Apply the distance formula to find the length of a line segment when given the coordinates of the endpoints.</p> <p>Find the coordinates of the midpoint of a segment, using the midpoint formula.</p> <p>Find the slope of a line, given the graph or the coordinates of two points on the line.</p> | |
| 6 days | Angles- -Naming -bisector -Complimentary -Supplementary -Linear Pair -Adjacent -Angle Addition Postulate | G.11; G.3 | | <p>Two intersecting lines form angles with specific relationships.</p> <p>Construct the bisector of a given angle; and</p> <p>Construct an angle congruent to a given angle. Solve practical problems by using the relationships between pairs of angles such as vertical angles, complementary angles, and supplementary angles</p> | |
| 6 days | Logic | G.1a, G.1b G.1c, G.1d | | <p>Identify the converse, inverse, and contrapositive of a conditional statement.</p> <p>Translate short verbal arguments into symbolic form.</p> <p>Use and interpret Venn diagrams.</p> | |

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| | | | | <p>Determine the validity of a logical argument.</p> <p>Use valid forms of deductive reasoning, including the law of syllogism.</p> <p>Use deductive Reasoning, Law of Syllogism, Law of Detachment</p> | |
| | | | | | Benchmark One |
| 4 days | <p>Proofs Properties of equality, transitive, symmetric, reflexive</p> | <p>Set Foundation for proofs (G.4)</p> | | <p>Select and use various types of reasoning and methods of proof, as appropriate.</p> | <p>-Algebraic proofs using algebraic properties (minimal) -Geometric proofs, using segment addition, definition of midpoint, linear pairs, supplementary and complementary</p> |
| 7 days | <p>Parallel lines & Transversals</p> | <p>G.3; G.4; G.11</p> | | <p>Construct a perpendicular to a given line from a point not on the line; Construct a perpendicular to a given line at a point on the line Classify the types of angles formed by two lines and a transversal.</p> <p>State the relationships between pairs of angles, including a linear pair, vertical angles, corresponding angles, alternate interior angles, same-side (consecutive) interior angles, complementary angles, and supplementary angles.</p> <p>Solve practical problems involving intersecting and parallel lines in a plane.</p> <p>Solve practical problems by using the relationships between pairs of angles such as vertical angles, corresponding angles, alternate interior angles, same-side interior angles, complementary angles, and supplementary angles Use properties, postulates, and theorems to determine whether two lines are parallel.</p> <p>Use algebraic, coordinate, and deductive methods to determine</p> | |

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| | | | | whether two lines are parallel. | |
| 3 days | Triangles Basic Vocab, Isosceles Triangles, Triangle Inequalities | G.5 | A, b | <p>Given the lengths of three segments, determine whether a triangle could be formed.</p> <p>Arrange the angles of a triangle in order from smallest to largest when given the lengths of the sides.</p> <p>Arrange the sides of a triangle in order from smallest to largest when given the measures of the angles.</p> | |
| 5 days | Triangle Congruency | G.5 | b, c | <p>Given the lengths of two sides of a triangle, determine the range in which the length of the third side must lie.</p> <p>Use definitions, postulates, and theorems to determine whether triangles are congruent</p> | |
| | | | | | Benchmark 2 (Should not contain triangle congruency) |
| 4 days | Similar Figures | G.5 G.14 | a, b a | <p>Use definitions, postulates, and theorems to determine whether triangles are similar.</p> <p>Use algebraic methods, such as properties of proportions, to prove that triangles are similar.</p> <p>Solve practical problems involving similar objects. Compare perimeters and areas of similar two-dimensional figures, using proportions.</p> | |
| 8 days | Right Triangles | G.7 | | <p>Given the lengths of two sides of a right triangle, use the Pythagorean Theorem to find the length of the third side.</p> <p>Determine whether a triangle formed with three given</p> | |

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| | | | | <p>lengths is a right triangle.</p> <p>Solve for missing lengths in geometric figures, using properties of 45°-45°-90° triangles.</p> <p>Solve for missing lengths in geometric figures, using properties of 30°-60°-90° triangles.</p> <p>Solve problems involving right triangles, using sine, cosine, and tangent ratios.</p> <p>Solve practical problems, using right triangle trigonometry and properties of right triangles.</p> | |
| 7 days | Quadrilaterals | G.8 | A,b,c | <p>Solve practical problems, using the properties specific to parallelograms, rectangles, rhombi, squares, and trapezoids.</p> <p>Prove that quadrilaterals have specific properties, using coordinate and algebraic methods, as well as deductive reasoning</p> <p>Investigate and identify properties of quadrilaterals involving opposite/consecutive sides, angles, and diagonals.</p> | |
| 5 days | Polygons | G.8 | A,b,c | <p>Solve problems involving the measures of interior and exterior angles of polygons.</p> <p>Find the sum of the measures of the interior and exterior angles of a convex polygon.</p> <p>Find the measure of each interior and exterior angle of a regular polygon</p> | |
| | | | | | Benchmark #3 (Should not contain polygons) |

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| 7 days | Circles (review) | G.10 | | <p>Given two intersecting chords or two intersecting tangents, find missing lengths.</p> <p>Calculate the area of a sector of a circle, using proportions.</p> <p>Given the measure of a central angle in degrees and the radius of the circle, find the related arc length.</p> <p>Solve practical problems associated with circles, using properties of angles and arcs.</p> | |
| 8 days | 3D Figures | G.12;G.13; G.14a;G.14 b | | <p>Use properties of three-dimensional objects to make models.</p> <p>Make a model of a three-dimensional figure from a two-dimensional drawing.</p> <p>Make a two-dimensional representation of a three-dimensional object.</p> <p>Solve problems, using scale drawings, perspective drawings, blueprints, or computer drawings as models of three-dimensional objects.</p> <p>Identify a three-dimensional object from different positions, such as the top view, side view, and front view. Find the total surface area of cylinders, prisms, pyramids, cones, and spheres, using the appropriate formulas.</p> <p>Calculate the volume of cylinders, prisms, pyramids, cones, and spheres, using the appropriate formulas.</p> <p>Solve practical problems involving total surface area and volume of cylinders, prisms, pyramids, cones, and spheres as well as combinations of three-dimensional figures.</p> | |
| 10 days | Review | All | | | |