MATHEMATICS CURRICULUM MAP

COURSE/GRADE LEVEL:**PRENTICE HALL GEOMETRY HONORS** (ROTATOR YEARLONG)

MONTH	*ESSENTIAL QUESTION*	*STRAND/ CONTENT*	*SKILLS*	*RESOURCES /ACTIVITIES*	*ASSESSMENT*
August	What are the tools of geometry?	Tools of Geometry MA.A.3.4.3 MA.B.1.4.1 MA.B.2.4.1 MA.B.3.4.1 MA.C.2.4.1 MA.C.3.4.2 MA.D.2.4.1	• Use inductive reasoning to make conjectures • Use graphs and sequences to represent real-word problems • Understand basic concepts of geometry • Understand basic postulates of geometry • Identify segments and rays • Recognize parallel lines • Find lengths of segments • Solve problems involving measured segments • Find measures of angles • Solve problems involving measured angles • Measure and construct congruent segments and congruent angles • Bisect segments and angles • Find distances between two points in a coordinate plane • Find midpoint of segment in coordinate plane • Find perimeters and circumferences of two-dimensional shapes • Find areas of rectangles, squares, and circles	1-1 Patterns and Inductive Reasoning 1-2 Points, Lines, and Planes 1-3 Segments, Rays, Parallel Lines and Planes 1-4 Measuring Segments and Angles 1-5 Basic Constructions 1-6 The Coordinate Plane 1-7 Perimeter, Circumference, and Area	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

MATHEMATICS CURRICULUM MAP

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September	How is reasoning used to draw conclusions?	Reasoning and Proof MA.A.2.4.2 MA.A.3.4.2 MA.C.1.4.1 MA.C .2.4.1	• Recognize and use conditional statements • Write converses of conditional statements • Write biconditional statements • Recognize and use good definitions • Use the Law of Detachment • Use the Law of Syllogism • Connect reasoning in algebra and geometry by using the real number system and the appropriate methods of computing • Use proofs and relationships to connect reasoning in algebra and geometry • Use the real number system to solve angle pairs • Prove and apply geometric properties and relationships about angles	2-1 Conditional Statements 2-2 Biconditionals and Definitions 2-3 Deductive Reasoning 2-4 Reasoning in Algebra 2-5 Proving Angles Congruent	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

MATHEMATICS CURRICULUM MAP

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September/October	What are the properties of parallel and perpendicular lines?	Parallel and Perpendicular Lines MA.B.1.4.2 MA.B.2.4.1 MA.C.1.4.1 MA.C.2.4.1 MA.C.3.4.2 MA.D.1.4.1	• Identify angles formed by two lines and a transversal • Use properties of parallel lines as method of measurement • Prove properties of parallel lines • Use a transversal in proving lines parallel • Relate parallel and perpendicular lines • Use models to classify triangles and find the measures of their angles • Use indirect methods of measurement to find the measures of angles • Use exterior angles of triangles to prove angle relationships • Use models to classify polygons • Find measures of interior and exterior angles of polygons • Understand properties of a line • Graph lines given their equations • Write equations of lines • Relate slopes and parallel lines using graphs • Relate slopes and perpendicular lines using graphs • Understand and construct parallel lines and perpendicular lines	3-1 Properties of Parallel Lines 3-2 Proving Lines Parallel 3-3 Parallel Lines and the Triangle Angle-Sum Theorem Patty Paper Activities 3-4 The Polygon Angle-Sum Theorems 3-5 Lines in the Coordinate Plane 3-6 Slopes of Parallel and Perpendicular Lines 3-7 Constructing Parallel and Perpendicular Lines Patty Paper Activities Geometer's Sketchpad	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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October	How are triangles proved congruent?	Congruent Figures MA.B.2.4.1 MA.C.1.4.1 MA.C.2.4.1	• Recognize congruent figures and their corresponding parts • Understand the geometric concept of congruency • Prove two triangles congruent using the SSS and SAS Postulates • Further understand properties of congruent triangles • Prove two triangles congruent using the ASA and AAS Postulates • Understand properties of congruent triangles • Use CPCTC to prove that parts of two congruent triangles are congruent • Understand properties of congruent triangles • Use and apply properties of isosceles triangles • Understand properties of isosceles triangles • Prove triangles congruent using HL Theorem • Understand properties of congruent right triangles • Understand and identify congruent overlapping triangles • Proves two triangle congruent by first proving two other triangle congruent	4-1 Congruent Figures Patty Paper Activities 4-2 Triangle Congruence by SSS and SAS Patty Paper Activities 4-3 Triangle Congruence by ASA and AAS Patty Paper Activities 4-4 Using Congruent Triangles: CPCTC 4-5 Isosceles and Equilateral Triangles Geometer's Sketchpad 4-6 Congruence in Right Triangles 4-7 Using Corresponding Parts of Congruent Triangles	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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November	How are special relationships within triangles used in problem solving?	Relationships with Triangles MA.A.1.4.2 MA.B.2.4.1 MA.C.1.4.1 MA.C.2.4.1 MA.C.3.4.2	• Understand properties of midsegments • Use properties of midsegments to solve problems • Understand properties of perpendicular bisectors and angle bisectors • Use properties of perpendicular bisectors and angles bisectors • Use and identifies properties of perpendicular bisectors and angle bisectors • Verify, use and identify properties of medians and altitudes of a triangle • Write negations, inverses and contrapositives of a conditional statement • Use indirect reasoning • Use inequalities in proofs involving angles of triangles • Use inequalities in proofs involving sides of a triangle	5-1 Midsegments of Triangles Patty Paper Activities Geometer's Sketchpad 5-2 Bisectors in Triangles Patty Paper Activities Geometer's Sketchpad 5-3 Concurrent Lines, Medians, and Altitudes Patty Paper Activities Geometer's Sketchpad 5-4 Inverses, Contrapositives, and Indirect Reasoning 5-5 Inequalities in Triangles	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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December	What are the properties of quadrilaterals?	Quadrilaterals MA.B.2.4.1 MA.C.1.4.1 MA.C.2.4.1 MA.C.3.4.1 MA.C.3.4.2 MA.D.1.4.1	• Understand geometric properties of quadrilaterals in order to define and classify special types • Use relationships among sides and angles of parallelograms in proofs • Use relationships involving diagonals of parallelograms or transversals in proofs • Determine whether a quadrilateral is a parallelogram • Understand properties of quadrilaterals as parallelograms • Use properties of diagonals of rhombuses and rectangles • Determine whether a parallelogram is a rhombus or a rectangle • Understand properties of a parallelogram as a rhombus or a rectangle • Verify, understand and use properties of trapezoids and kites in proofs and as indirect methods of measurement • Understand and use properties of special figures in order to name coordinates on the coordinate plane • Prove theorems using figures in the coordinate plane. • Describe and analyze figures in the coordinate plane	6-1 Classifying Quadrilaterals Geometer's Sketchpad 6-2 Properties of Parallelograms Geometer's Sketchpad 6-3 Proving That a Quadrilateral is a Parallelogram Geometer's Sketchpad 6-4 Special Parallelograms Geometer's Sketchpad 6-5 Trapezoids and Kites Geometer's Sketchpad 6-6 Placing Figures in the Coordinate Plane* 6-7 Proofs Using Coordinate Geometry	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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January	How can area formulas be used in problem solving?	Area MA.A.1.4.3 MA.A.1.4.4 MA.A.3.4.3 MA.A.4.4.1 MA.B.1.4.1 MA.B.2.4.1 MA.B.3.4.1. MA.C.1.4.1 MA.E.1.4.1 MA.E.2.4.2	• Use formulas to find the areas of parallelograms and triangles • Solve real-world problems requiring use of right triangles • Use the Pythagorean Theorem and its converse • Use and understand properties of 30°-60°-90° and 45°-45°-90° right triangles • Understand properties of trapezoids, rhombuses and kites • Use formulas to find areas of trapezoids, rhombuses and kites • Derive (or understand derivation of) formula for area of regular polygon • Calculate the area of a regular polygon • Use different methods to find the measures of central angles and arcs • Find circumference and arc lengths • Use formulas to find the areas of circles, sectors, and segments of a circle • Solve real-world estimation problems • Use estimation strategies to solve real-world problems • Use segments and models to find the probability of events	7-1 Areas of Parallelograms and Triangles 7-2 The Pythagorean Theorem and Its Converse 7-3 Special Right Triangles 7-4 Areas of Trapezoids, Rhombuses, and Kites 7-5 Areas of Regular Polygons 7-6 Circles and Arcs 7-7 Areas of Circles and Sectors 7-8 Geometric Probability	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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February	What are the properties of similarity?	Similarity MA.B.1.4.3 MA.B.2.4.1 MA.C.1.4.1 MA.C.2.4.1 MA.C.3.4.1	• Write ratios and solves proportions in real-world situations • Identify similar polygons • Apply similar polygons for use with ratios and to solve proportions in real-world situations • Use AAA, SAS, and, SSS similarity statements to prove triangles similar • Apply AA, SAS, and SSS similarity statements with ratios and proportions • Use relationships in similar right triangles with ratios and proportions in real-world situations • Find relationships in similar right triangles • Use the Side-Splitter Theorem with ratios and proportions • Use the Triangle-Angle-Bisector Theorem with ratios and proportions • Use proportions and ratios to find the perimeters and areas of similar figures in real-world situations	8-1 Ratios and Proportions 8-2 Similar Polygons 8-3 Proving Triangles Similar 8-4 Similarity in Right Triangles 8-5 Proportions in Triangles 8-6 Perimeters and Areas of Similar Figures	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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February	How can the characteristics of right triangles be used to solve problems?	Right Triangle Trigonometry MA.A.1.4.3 MA.A.3.4.3 MA.B.1.4.3 MA.B.2.4.1 MA.B.2.4.2 MA.B.3.4.1 MA.C.3.4.1 MA.C.3.4.2	• Understand tangent as a ratio in a right triangle • Relate tangents to real-world situations • Use tangents to determine lengths in a right triangle • Understand sines and cosines as ratios of sides in a right triangle • Relate sines and cosines to real-world situations • Use sines and cosines to determine side lengths in right triangles • Use angles of elevation and depression to solve real-world applications involving right triangles • Use graphs to describe vectors • Solve problems using vectors • Solve problems using vector addition • Use trigonometry to find area of regular polygons • Use trigonometry to find area of a triangle	9-1 The Tangent Ratio 9-2 Sine and Cosine Ratios 9-3 Angles of Elevation and Depression 9-4 Vectors 9-5 Trigonometry and Area	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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March	How can surface area and volume formulas be used in problem solving?	Surface Area and Volume MA.A.3.4.3 MA.B.1.4.1 MA.B.1.4.3 MA.B.2.4.1 MA.B.3.4.1 MA.B.3.4.3 MA.C.2.4.2 MA.C.3.4.1	• Use nets of space figures • Analyze and identify nets of space figures • Make isometric and orthographic drawings • Describe and analyze cross sections of three-dimensional figures • Use models and a formula to find the surface area of a prism • Use models and a formula to find the surface area of a cylinder • Use models and a formula to find the surface area of a pyramid • Use models and a formula to find the surface area of a cone • Use models and a formula to find the volume of a prism • Use models and a formula to find the volume of a cylinder • Use models and a formula to find the volume of a pyramid • Use models and a formula to find the volume of a cone • Use models and a formula to find the surface area and volume of a sphere • Relate ratios of areas and volumes with similar solids • Use ratios to measure areas and volumes of similar solids • Find relationships between the ratios of the areas and volume of similar solids	10-1 Space Figures and Nets 10-2 Space Figures and Drawings 10-3 Surface Areas of Prisms and Cylinders 10-4 Surface Areas of Pyramids and Cones 10-5 Volumes of Prisms and Cylinders 10-6 Volumes of Pyramids and Cones 10-7 Surface Areas and Volumes of Spheres 10-8 Areas and Volumes of Similar Solids	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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April	What special relationships exist in circles?	Circles MA.A.2.4.2 MA.B.1.4.2 MA.B.2.4.1 MA.C.1.4.1 MA.C.2.4.1 MA.C.3.4.2	• Use relationship between radius and tangent • Understand properties between radius and tangent • Use relationship between two tangents from a point • Understand properties between two tangents from one point • Use congruent chords, arcs, and central angles to find real number values • Understand and use properties of lines through the center of a circle • Find measures of inscribed angles in models • Find measures of angles formed by tangent and chord in models • Find measures of angles formed by chords, secants and tangents in models • Finds lengths of segments in circles • Use graphs to write equations of circles • Use graph to find center and radius of a circle • Draw and describe a locus	11-1 Tangent Lines 11-2 Chords and Arcs 11-3 Inscribed Angles 11-4 Angle Measures and Segment Lengths 11-5 Circles in the Coordinate Plane 11-6 Locus: A Set of Points	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency

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May	How do transformations affect figures?	Transformations MA.A.3.4.3 MA.B.1.4.3 MA.C.2.4.1 MA.C.2.4.2 MA.C.3.4.1 MA.C.3.4.2	• Understand and identify isometries • Use graphs to find and verify reflection images of figures • Describe and analyze translations, using vectors and graphs • Find translation images using different methods • Understand, draw, and identify rotation images • Use a composition of reflections in figures using graphs • Understand and identify the types of symmetry of figures • Understand and identify types of symmetry in figures • Understand and identify transformations in tessellations • Understand and identify symmetries in tessellations • Relate proportions to dilations in real-world situations • Understand and identify dilation images of figures	12-1 Reflections Geometer's Sketchpad 12-2 Translations Geometer's Sketchpad 12-3 Rotations Geometer's Sketchpad 12-4 Compositions of Reflections 12-5 Symmetry 12-6 Tessellations Geometer's Sketchpad 12-7 Dilations	Checkpoint Quiz 1 Checkpoint Quiz 2 Assignments Chapter Test Alternative Assessment Warm-up transparency Group activity FCAT practice/ transparency