Hattiesburg Public School District
Grade 4 Mathematics Units
2015 – 2016

Unit 11: Geometry: Angles	Time Frame: 3 Weeks (May2-May19)
Content Standards	**Standards for Mathematical Practice**
Major Standards	(1) Make sense of problems and persevere in solving them.
4.MD.5a Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.	(2) Reason abstractly and quantitatively. (3) Construct viable arguments and critique the reasoning of others. (4) Model with mathematics. (5) Use appropriate tools strategically. (6) Attend to precision. (7) Look for and make use of structure. (8) Look for and express regularity in repeated reasoning.
4.MD.5b Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through one-degree angles is said to have an angle measure of n degrees.	
4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into no overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	
4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	
4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size.	

Recognize right triangles as a category, and identify right triangles.

4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Supporting Standards

Additional Standards

4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Pre-requisite Standards

4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Measuring Angles 4.MD.5a	Finding angles in shapes 4.MD.5b	Measuring angles w/ protractors 4.MD.6	Finding unknown angles using given information 4.MD.7	Lines and parts of lines 4.G.1
Estimating Angle Measures	Estimating Angle Measures			Alphabet Lines
Angles in Circles	Angles in Circles	Predicting and Measuring Angles	Additive Angles	Geoboard Line Segments
			Unknown Angle Word	Angles on the Geoboard

		Angle Barrier Game How Many Degrees? Angles in Triangles Angles in Quadrilaterals Angles in a Right Triangle	Problems Pattern Block Angles	Angle Barrier Game
Lesson 6	**Lesson 7**			**Performance Task**
Classifying 2D figures 4.G.2 Classifying 2D Figures Right Triangles on the Geoboard Isosceles Triangles on the Geoboard Constructing Quadrilaterals Quadrilateral Criteria Triangles on the Geoboard Classifying Triangles v.1 Classifying Triangles v.2	Symmetry of 2D figures 4.G.3 Symmetry on the Geoboard Symmetry in Regular Polygons Symmetrical Coin Design			4.G.1, 2, &3 http://www.insidemathematics.org/assets/common-core-math-tasks/quilt%20making.pdf 4. MD.5, 6,& 7 http://www.k-5mathteachingresources.com/support-files/pattern-block-angles.pdf