



Hattiesburg Public School District

Grade 7 Mathematics Units

2015 – 2016



Unit 4: Geometric Relationships	Time Frame: 29 Days/ Feb 4 – Mar 11, 2016
Content Standards	Standards for Mathematical Practice
Major Standards	<p>(1) Make sense of problems and persevere in solving them.</p> <p>(2) Reason abstractly and quantitatively.</p> <p>(3) Construct viable arguments and critique the reasoning of others.</p> <p>(4) Model with mathematics.</p> <p>(5) Use appropriate tools strategically.</p> <p>(6) Attend to precision.</p> <p>(7) Look for and make use of structure.</p> <p>(8) Look for and express regularity in repeated reasoning.</p> <p>7.G.2 – MP: 4-8</p> <p>7.G.3 – MP: 5</p> <p>7.G.4 – MP: 3-7</p> <p>7.G.5 – MP: 3-7</p> <p>7.G.6 – MP: 1-8</p>
Supporting Standards	
Additional Standards	
<p>7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.</p> <p>7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. (Students must be able to find radius and diameter when given the area and circumference of a figure.) **Major Standard: Place emphasis on finding the area and circumference of circles.**</p> <p>7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi- step problem to write and solve simple equations for an unknown angle in a figure.</p> <p>7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals,</p>	



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polygons, cubes, and right prisms.

Pre-requisite Standards

7.G.2

- Identify, estimate, and compare right, acute, and obtuse angles.
- Draw, label, and classify polygons to include regular shapes.
- Measure, angles and side lengths using a ruler or protractor.
- Draw precise angles using a protractor and ruler.

7.G.3

- Understand which two-dimensional shapes create three-dimensional objects.
- Identify spatial relationships of the views of three-dimensional shapes.
- Classify and compare three-dimensional shapes using their properties.
- Constructing two-dimensional representations of three-dimensional objects.

7.G.4

- Determine the radius, diameter, and circumference of a circle.
- Recognize the parts of a circle (radius, diameter, and center).

7.G.5

- Identify, estimate, and compare right, acute, obtuse, supplementary, complementary, vertical, and adjacent angles.
- Solve multi-step equations.

7.G.6

- Understanding of the two-dimensional shapes used to create three-dimensional shapes.
- Determine and use nets of three-dimensional figures to find surface area.
- Use volume formulas to find unknown measurements.



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<ul style="list-style-type: none"> Understand the concepts of area and volume in order to solve and unstructured and/or complex problems. 				
Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
<p>Lesson Topic Angle Problems & Solving Equations</p> <ul style="list-style-type: none"> Identifying Angles by Measure & Notation Angle Relationships Model Angle Relationships in Equations <p>Standard Ref 7.G.5</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<p>Lesson Topic Multiple Angle Relationships</p> <ul style="list-style-type: none"> Complementary & Supplementary Geometric Solutions Algebraic Solutions Angle Facts <p>Standard Ref 7.G.5</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<p>Lesson Topic Using Equations/Inequalities to Solve Geometry Problems</p> <ul style="list-style-type: none"> Area of Circle Area and Circumference Area Problems on a Coordinate Plane <p>Standard Ref 7.G.4; 7.G.6</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<p>Lesson Topic Using Equations/Inequalities to Solve Geometry Problems</p> <ul style="list-style-type: none"> Composite Area Problems Surface Area Volume of Right Prisms <p>Standard Ref 7.G.4; 7.G.6</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<p>Lesson Topic Constructing Triangles</p> <ul style="list-style-type: none"> Triangle Correspondence Notation for Sides, Angles & Vertices Unique Triangles <p>Standard Ref 7.G.2</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>
Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10
<p>Lesson Topic Drawing Geometric Shapes</p> <ul style="list-style-type: none"> Tools of the Trades Constructing 	<p>Lesson Topic Drawing Geometric Shapes</p> <ul style="list-style-type: none"> Parallelograms Triangles 	<p>Lesson Topic Conditions for Unique Triangles</p> <ul style="list-style-type: none"> Identifiable 	<p>Lesson Topic Slicing Solids</p> <ul style="list-style-type: none"> Right Rectangular Prism with a Plane 	<p>Lesson Topic Area and Surface Area</p> <ul style="list-style-type: none"> Real-World Area Problems



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<p>Triangles with Given Conditions</p> <ul style="list-style-type: none"> • Conditions Determining a Unique Triangles • Accurately Using a Compass <p>Standard Ref 7.G.2</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<ul style="list-style-type: none"> • Accurately Using a Compass • Simple Constructions • Freehand Sketches (With & Without Tools) <p>Standard Ref 7.G.2</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<p>Conditions</p> <ul style="list-style-type: none"> • Producing Identical Triangles <p>Standard Ref 7.G.2</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<ul style="list-style-type: none"> • Right Rectangular Pyramid with a Plane • Slicing on a Angle • Understanding 3d Figures <p>Standard Ref 7.G.3</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<ul style="list-style-type: none"> • Mathematical Area Problems • Area Problems • Circular Problems • Surface Areas <p>Standard Ref 7.G.6</p> <p>Resource/Strategy engageNY/Module 3/6</p> <p>CCSS Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>
FAL	Lesson 11	Lesson 12	Lesson 13	
<p>Performance Task Maximizing Area: A Gold Rush</p> <p>Standard Ref 7.EE. ; 7.G.4; 7.G.6</p> <p>Resource/Strategy Mathshell.org engageNY/Module 3/6 CCSS PrBL Curriculum Map: Grade 7 https://docs.google.com/document/d/1KYgtd2q5x2clpDTwtJwpDeAoZw_M_O0R9Au5bkKXHsE/edit</p>	<p>Lesson Topic Slicing Solids</p> <ul style="list-style-type: none"> • Right Rectangular Prism with a Plane • Right Rectangular Pyramid with a Plane • Slicing on a Angle • Understanding 3d Figures <p>Standard Ref</p>	<p>Lesson Topic Area and Surface Area</p> <ul style="list-style-type: none"> • Real-World Area Problems • Mathematical Area Problems • Area Problems • Circular Problems • Surface Areas <p>Standard Ref 7.G.6</p>	<p>Lesson Topic Problems Involving Volume</p> <ul style="list-style-type: none"> • Volume of Right Prisms • Volume of Composite 3d Objects • Real-World Volume Problems <p>Standard Ref 7.G.6</p>	



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