MGSE: UNIT 4: GEOMETRY – STUDENT INFORMATION SHEET

STANDARDS:

Draw, construct, and describe geometrical figures and describe the relationships between them.

MGSE7.G.1: **Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.**

MGSE7.G.2: **Explore various geometric shapes with given conditions. Focus on creating triangles from three measures of angles and/or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.**

MGSE7.G.3: **Describe the two-dimensional figures (cross sections) that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms, right rectangular pyramids, cones, cylinders, and spheres.**

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

MGSE7.G.4: **Given the formulas for the area and circumference of a circle, use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.**

MGSE7.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.**

MGSE7.G.6: **Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.**

OVERVIEW: Emphasize key standards that assist students to develop a deeper understanding of numbers; engage in using what they have previously learned about drawing geometric figures, with an emphasis on triangles, to write and solve equations involving angle relationships, area, volume, and surface area of fundamental solid figures; understand geometric figures and solving equations involving geometric figures; realize how geometry works in real world situations

Concepts and Skills to Maintain:
- **number sense**
- **computation with whole numbers and decimals, including application of order of operations**
- **addition and subtraction of common fractions with like denominators**
- **measuring length and finding perimeter and area of rectangles and squares**
- **characteristics of 2-D and 3-D shapes; angle measurement; data usage and representations**
- **estimation, mental and basic computation, solving equations**

TOPICS OF STUDY:
- **Scale Drawings**
- **Drawing Geometric Shapes**
- **Cross-Sections of 3D Figures**
- **Area & Circumference of Circles**
- **Angles - Supplementary, Complementary, Adjacent**
- **Area & Surface Area of Composite Figures**
- **Volume of 3D Figures**

VOCABULARY:

Adjacent Angle	Circumference	Complementary Angle	Congruent
Cross- section	Irregular Polygon	Parallel Lines	Pi
Regular Polygon	Supplementary Angle	Vertical Angles	Scale Drawing
3-Dimensional Figures	Corresponding Sides/Angles	Proportional Sides	Scale
Acute Angle/Triangle	Right Angle/Triangle	Obtuse Angle/Triangle	Circle
Radius	Diameter	Area	