

UBD Unit Design Template

Time Frame: ~3-4 Weeks	Unit Title: Angles, Triangles, and Prisms	Course Name: Seventh Grade Math
Stage 1: Desired Results		
Established Goal(s)	Transferable Skills	
<p>Standards Addressed:</p> <ul style="list-style-type: none"> ● 7.G.2: Draw (freehand, with a protractor and ruler, 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. ● 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. ● 7.G.6: Solve real-world and mathematical problems involving area, volume, and 	<p>Students will be able to independently use their learning to...</p> <p>In this unit students will be working with angles and use knowledge of angle pairs to solve for missing angle measurements and apply this skill to more complex problem solving. Students then learn about how to classify triangles by observing their properties and learning about angle relationships. Students then use this knowledge to move into work with three dimensional shapes and use their knowledge to solve for surface area and volume.</p>	
	Meaning	
	<p>Understandings</p> <p>Students will understand that...</p> <ul style="list-style-type: none"> ● Angles are formed by the intersection of two rays and are measured in degrees. ● Triangles are three-sided polygons that have specific properties and can be classified based on their angles and side lengths. ● Prisms are three-dimensional shapes with two parallel and congruent bases connected by rectangular faces. 	<p>Essential Questions</p> <ul style="list-style-type: none"> ● How can we describe and measure angles? ● What are the properties of different types of triangles? ● How can we identify and classify prisms based on their properties?
Acquisition		

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surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Students will know...

- Angles:
 - The definition of an angle and how it is formed by the intersection of two rays.
 - The concept of measuring angles in degrees and using a protractor.
 - The classification of angles as right, acute, and obtuse.
 - The ability to identify and describe different types of angles in real-life situations.
 - The ability to solve problems involving angle measurement and relationships.
- Triangles:
 - The properties and characteristics of triangles, including sides, angles, and classifications.
 - The relationship between angle measures in triangles, such as the sum of interior angles and the triangle inequality theorem.
 - The ability to classify triangles as equilateral, isosceles, scalene, acute, obtuse, or right based on their side lengths and angle measures.
 - The ability to solve problems related to triangle classification, angle measurement, and triangle properties.
- Prisms:

Students will be able to...

- Angles:
 - Measure angles accurately using a protractor.
 - Classify angles as right, acute, or obtuse.
 - Identify and describe angles in real-life situations.
 - Solve problems involving angle measurement and relationships, such as finding missing angles or determining supplementary and complementary angles.
- Triangles:
 - Identify and describe the properties and characteristics of triangles, including sides, angles, and classifications.
 - Classify triangles based on their side lengths and angle measures, such as equilateral, isosceles, scalene, acute, obtuse, or right triangles.
 - Apply triangle properties to solve problems, including finding missing side lengths or angle measures, using the triangle inequality theorem, and determining the sum of interior angles.
- Prisms:
 - Define prisms and recognize their characteristics, including congruent bases and rectangular faces.
 - Identify different types of prisms, such as rectangular and triangular prisms.
 - Calculate the surface area and volume of prisms using appropriate formulas.
 - Solve real-world problems involving prisms, such as determining the amount of paint needed to cover a rectangular prism or finding the volume of a triangular prism.

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- The definition and characteristics of prisms as three-dimensional shapes with congruent bases and rectangular faces.
- The identification of different types of prisms, such as rectangular and triangular prisms.
- The ability to calculate the surface area and volume of prisms using appropriate formulas.
- The application of prism concepts to solve real-world problems involving volume, surface area, and practical scenarios.

Stage 2: Evidence & Assessment

Evaluative Criteria

Assessment Evidence

Stage 3: Learning Overview

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