

Geometry – Unit 1: Foundations of Geometry

Phoenixville Area School District

Stage 1 Desired Results		
PA Core Standards: CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically. CC.2.3.HS.A.14 Apply geometric concepts to model and solve real-world problems	Transfer	
	TRANSFER GOALS <i>Students will be able to independently use their learning to...</i> <ul style="list-style-type: none"> • Problem-Solving: Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems and provide evidence to support response. • Mathematical Vocabulary: Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale. • Reasoning: Demonstrate mathematical resilience and conceptual understanding through the use of vocabulary, written expression, graphical representation, and alternate strategies. 	
	Meaning	
	UNDERSTANDINGS <i>Students will understand that...</i> <ul style="list-style-type: none"> • Mathematics is a language of carefully defined terms and symbols. • Postulates, theorems, definitions, and properties are used to justify reasoning in a direct proof and establish relationships involving two and three-dimensional figures. 	ESSENTIAL QUESTIONS <i>Students will keep considering...</i> <ul style="list-style-type: none"> • What tools should I use here to be most efficient and effective? • How do the tools of geometry such as definitions, theorems, and properties foster an increasing ability to spatially visualize and logically deduce conclusions? • What are the mathematical attributes of objects or processes and how are they measured or calculated?

<i>Knowledge and Skills Acquisition</i>		
	<p>KNOWLEDGE <i>Students will know...</i></p> <ul style="list-style-type: none"> • The definition, representation, and notation of points, lines and plans • How to apply distance and midpoint • How to define different types of angles and how they relate to one another <p>VOCABULARY</p> <ul style="list-style-type: none"> • Points • Lines • Planes • Angle • Distance • Midpoint 	<p>SKILLS <i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> • Understanding critical geometric vocabulary (i.e., point, line, plane, angle, distance, midpoint) and their notation as demonstrated in a graphic organizer. • Finding the distance between points and midpoints of line segments through open-ended response questions. • Creating angles and identifying their relationships through open-ended response questions.

Stage 2 – Evidence

Code A/M/T	Evaluative Criteria	Assessment Evidence	
N/A	N/A	PERFORMANCE TASK(S) <i>Students will demonstrate understanding (meaning making and transfer) through complex performance by...</i>	Differentiation Considerations:
Acquisition Meaning Making	Uses mathematics vocabulary and notation concisely and correctly Valid conclusions are made based on given/ implied/ found information. All representations are clear and labeled accurately. Solution is clearly identified; appropriate units are provided.	OTHER EVIDENCE Unit Test <ul style="list-style-type: none"> • Open Response • Constructed Response Prompts 	Differentiation Considerations: