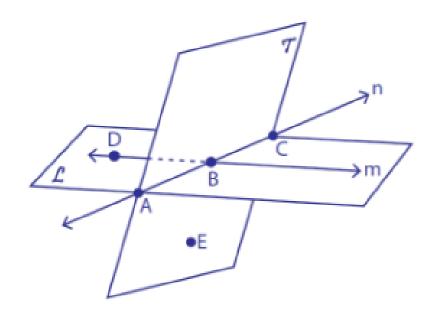
Essentials of Geometry



Unit Introduction

In Unit 1, we will be starting with an understanding of geometrical terms. The basic geometrical concepts are dependent on three basic concepts: points, lines, planes and angles. We will then learn theorem postulates and apply them to prove in order to solve problems.

Unit Priority Standards

- HSG.CO.D.12: Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and contracting a line parallel to a given line through a point not on the line.
- SMP4: Model with Mathematics

Unit Transfer Goals

- Extend knowledge based on the fact that the absolute value of a number is the distance from 0 on a number line
- Apply mathematical knowledge to analyze and model mathematical relationships in the context of a situation in order to make decisions, draw conclusions, and solve problems.

Unit Essential questions

- 1. If the measures of two congruent segments are represented by algebraic expressions, what strategy could you use to solve for the variable?
- 2. What is the relationship between the method for finding the midpoint of a segment and the method for finding other partitions of the segment?

Acquisition of Knowledge Skill

Students will know...

- Logic, in combination with facts, theorems and formulas can be used to draw conclusions about geometric figures
- Geometric figures are rules by known relationships of measures, often expressed as theorems and/or algebraic functions

Students will be skilled at...I can...

- 1. Identifying key terms
- 2. Using properties of segments and angles to find their measure
- 3. Using a straightedge and compass to construct basic figures
- 4. Identifying, constructing and using angle pairs to solve problems
- 5. Using the midpoint and distance formulas to solve problems

6. Identifying and constructing angles according to their individual criteria

Unit Plan

The schedule is tentative and subject to changes. Students will be notified of anticipated changes ahead of time.

Week 1: Aug 24 - Aug 27	Focus: Introduction / Points, Lines and Planes What is the relationship between the method for finding the midpoint of a segment and the method for finding other partitions of the segment?	
Learning Target(s):	1.1: Points, Lines and Planes1.2: Segments and Congruence	
Acquired Knowledge and Skills:	 Identifying key terms Using properties of segments and angles to find their measure 	
Activities:	Notes/ Khan Academy/ Workbook/ Kahoot	
Due Dates:	1.1 Worksheet due: Aug 27 1.2 Worksheet due: Aug 30/31	

Week 2: Aug 30 - Sep 3	Focus: Angles / Distance / Unit 1 Quiz (1.1~1.3) What is the relationship between the method for finding the midpoint of a segment and the method for finding other partitions of the segment?	
Learning Target(s):	 1.3: Constructing and Measuring Angles 1.4: Exploring Angle Pairs 1.5: Midpoint and Distance Formula 	
Acquired Knowledge and Skills:	 Using a straightedge and compass to construct basic figures Identifying, constructing and using angle pairs to solve problems 	

Activities:	Notes/ Khan Academy/ Workbook/ Kahoot Unit 1 Quiz
Due Dates:	1.3 Worksheet due: Aug 31 1.4 Worksheet due: Sep 3 Unit 1 Quiz: Sep 3

Week 3: Sep 6 - Sep 10	Focus: Types of Angles / Unit 1 Review / Unit 1 Test What is the relationship between the method for finding the midpoint of a segment and the method for finding other partitions of the segment?	
Learning Target(s):	- 1.6: Classifying Angles	
Acquired Knowledge and Skills:	 Using the midpoint and distance formulas to solve problems Identifying and constructing angles according to their individual criteria 	
Activities:	Notes/ Khan Academy/ Workbook/ Kahoot Unit 1 Test	
Due Dates:	1.5 Worksheet due: Sep 6 1.6 Worksheet due: Sep 8/9 Unit 1 Test: Sep 10	

Assessment Details

Evidence		
I will check students' understanding throughout the unit by		
Summative	Formative	
Test	Warm-up	
• Unit Test will be given at the end of the unit to test students'	 A review of previous learning (warm-up activities) at the start of each lesson will be 	
understanding of the entire unit.	provided to strengthen students' retention of	

st	Quiz will be provided to assess students' understanding of the content throughout the unit.	 knowledge. Check-In Gives students focused feedback on their progress in acquiring skills and knowledge. Discussion Challenging math problems will be provided throughout the unit to help students build critical / creative thinking.
		Kahoot • Kahoot activity will be provided throughout the class to check for understanding. Exit Ticket
		 Exit tickets will be provided at the end of the unit to check for understanding.

Extended Learning

Website Description	Website
Visual simulations and worksheets	https://www.geogebra.org/m/kewpjrue
Assists with steps to solving problems	https://www.webmath.com/index5.html
Helps to try many geometry problems	https://www.mathwarehouse.com/geometry/