

Sample Demo Lesson Plan

Teacher:	Ms. Germain		Date:	10/19/18
Standard:	HSG-CO.C.10: Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.		Objective:	SWBAT state the sum of the interior angles of a triangle and calculate the value of a missing angle of a triangle.
Subject:	Math (Geometry)	Grade Level:	10	# of Students: 23
Vocabulary/Academic Language:	Interior angles The interior angles of a triangle sum to 180 degrees.		Pre-made Materials:	Packet with Do Now, space to write notes for the intro. to new materials section, guided practice questions, and an exit ticket on the last page. Pre-made posters with objective, subject, grade, my name, a square, and class rules.
Anticipated Student Misunderstandings:				
Adding the values of each known value to 180 degrees instead of subtracting. Forgetting that the sum of a triangle's interior angles is 180 degrees and thinking it's 360 degrees instead.				
Differentiation Strategies, Grouping of Students, IEP Requirements, etc.				
<ul style="list-style-type: none"> ➤ Planning for students with disabilities/IEPs ➤ Planning for ELL Students ➤ Planning for Fast Finishers 				
Students with IEPs who could benefit from accessing their notes during the exit ticket should be allowed to do so.				
For any ELL students, you may want to prepare copies of key points (sum of the interior angles of a triangle equate to 180 degrees and the steps needed to solve for a missing interior angle of a triangle) in two additional common regional languages.				
Students:				
<ul style="list-style-type: none"> ▪ What students should be doing, how, and for how long. ▪ What differentiation/scaffolding will be provided? 				
Teacher:				
<ul style="list-style-type: none"> ▪ What YOU will be doing during this time and how you will check for understanding throughout the lesson. ▪ What student-friendly directions you will provide. 				
OPENING				
TIME ALLOTTED: 2 min Purpose: Introduce yourself, set expectations, and review the day's learning objective, provide an engaging hook.		<p>"Hi! My name is Ms. Germain. Today I'm going to teach you how to do a theorem about triangles and how to use it to calculate the value of missing angles within a triangle. First, I want to go over just a few rules so we can make the most of our 10 minutes together. As you see on my chart, they are:</p> <ol style="list-style-type: none"> 1.) Quietly raise your hand to speak unless we're doing pair or group work. 2.) follow my attention signal (all raise hands silently when I silently raise my hand—practice once). 3.) Look at the person whose turn it is to speak so we all feel respected. <p>Thumbs up if that sounds fair? Great."</p> <p>Hook: "Quietly raising your hand, can someone remind us what the sum of the angles in a square is equal to? I understand that you worked on this last week."</p>		

	<p>- Choose a student to answer. Answer: 360.</p> <p>Point to the pre-made image of a square on the board. Write 360 in the middle. Draw a line splitting the square into two triangles—cutting it in half.</p> <p>“On the count of 3, using your fingers, show me how many triangles you see when I split this square in half. 1, 2, 3!” (They should hold up 2 fingers.)</p> <p>“Can someone else tell me how the volume of 1 triangle compares to the volume of the whole square?” (It’s half.)</p> <p>“Great, now if a square is 360 degrees, and I just cut it in half to form two triangles, who can raise their hand and tell me how many degrees are in a triangle?” (180.)</p> <p>“Excellent—that’s right, exactly half. Which equals 180.”</p>
CONTENT MINI-LESSON	
<p>TIME ALLOTTED: 2 min</p> <p><i>Purpose: Provide students with key content knowledge/skills needed to achieve the day’s objective.</i></p>	<p>“Following along in the <i>Intro to New Material</i> section of your packet, please write down in the Theorem section <i>The sum of a triangle’s angles is 180 degrees.</i>”</p> <p>Draw a triangle on the board, label angles A and B as 45 degrees and 50 degrees, respectively, then label angle C with a question mark.</p> <p>“As you see in your packet in example 1, angle A is 45 degrees, angle B is 50 degrees, and angle C is unknown. However, since we now know that the sum of a triangle’s interior angles is, what again? (180 degrees), we can now figure out the value of the missing angle. Here’s how—please follow along in your notes section and fill out the missing key words.”</p> <p>“Step 1: <u>Add</u> up the values of the <u>two</u> interior angles of the triangle that you <u>know</u> Step 2: <u>Subtract</u> that value from <u>180</u> degrees. This is the <u>value</u> of the <u>unknown</u> angle.”</p> <p>“I’ll use this strategy to solve for the unknown angle.”</p> <p>“Step 1: Angle A (45 degrees) plus angle B (50 degrees) equals 95 degrees. Step 2: 180 degrees minus 95 degrees equals (solve math problem on the board) 85 degrees.”</p>
GUIDED PRACTICE	
<p>TIME ALLOTTED: 4 min</p> <p><i>Purpose: Pair, group, or whole-class activity that allows students to practice mastering the objective.</i></p>	<p>“Now it’s your turn. I’ll split you up into pairs, then please take the next 3 minutes to work together and solve the next two problems in the “Guided Practice” section of your packet. I’ll circulate the room to help you out as needed, then we’ll compare our answers as a group for 1 minute.”</p> <p>Allow students to work on their practice problems in pairs, checking for understanding as you circulate with questions like “How many degrees are there in a triangle? What is the first step in solving for an unknown angle of a triangle? What is the second step?”</p> <p>Once students are done working, go over the answers as a whole class and re-teach as necessary using a new example.</p>
INDEPENDENT PRACTICE / EXIT TICKET	
<p>TIME ALLOTTED: 1.5</p>	<p>“Excellent job everyone—you’re quickly getting the hang of this. Now it’s time to show me what you know on your own. Please tear off the last page of your packet that says</p>

<p><i>Purpose:</i> Allow students to independently demonstrate their individual mastery of the objective.</p>	<p>“Exit Ticket” and put your notes away. You’ll take the next 1.5 minutes to silently and independently complete the exit ticket questions.”</p> <p>“The directions on the exit ticket ask that when you’re finished that you show me by folding your exit ticket in half and placing it on the top-right corner of your desk.”</p> <p>Set timer for 2 minutes. Exit slip asks students the number of total degrees of the interior angles of a triangle and to solve for a missing angle of a triangle. A bonus optional question is added for those who have time and want to test their knowledge further. Circulate the room with your clipboard to document who seems to be on track with their exit slip answers. Collect exit tickets as they are completed. If time remains, have volunteers explain their answers to each question.</p> <p>For students who need it, allow them access to their notes to complete their exit ticket.</p>
CLOSING	
<p>TIME ALLOTTED: .5 min</p> <p><i>Purpose:</i> Reflect with students on their mastery of the objective, thank them for their engagement, and provide any final announcements.</p>	<p>“Can I have a volunteer tell me the two things that we learned today?” Call on 1-2 students as needed, then thank students for their participation.</p>
SUPPLEMENTAL ACTIVITY	
<p><i>Purpose:</i> This is intended for students who finish early.</p>	<p>Challenge question in exit ticket.</p>
LESSON/CLASS TRANSITION	