

I. What do we want to learn from this lesson? (*Research Lesson Goals for Teachers*)

If students understanding of similar triangles is enhanced with the use of the Geometry Sketchpad, thus being able to relate their knowledge to real-life situations.

II. The overarching Lesson Study goals are:

Through the use of the Geometry Sketchpad, students will discover the new concept of similarity, boosting their moral and becoming more confident in their ability to learn and discover new concepts.

Steps of Research Lesson	Students	Teacher	Evidence of student learning/engagement	Observer's Comments: Things to think about for next time
Building a context for the lesson <i>(Connecting to meaningful things or previous lesson)</i> Lesson is introduced by presenting the problem of having to measure the flagpole in front of the school, but with no ladder to reach the top.	Doing: Students will be brainstorming and reviewing of concepts. Demonstrating their comprehension of previous material.	Doing: Introducing the lesson by asking students how we could measure the flagpole in front of the school.	Students will brainstorm ways to measure the flagpole.	
	Thinking/Possible Questions or Misconceptions: Could we just shimmy up the pole and measure it? When are we going to use this in real-life? Why do we need to find the height?	Possible Responses/ Questions to Pose: How are we going to measure this? It is too dangerous to shimmy up the pole. We need to do this to know how much rope to buy to be replaced.		
Laying the framework for the learning experience <i>(Launching the activity)</i> Students will be interacting with the teacher, exploring how to solve the problem and reviewing previously learned material.	Doing: Reviewing concepts and working through examples. Review the SSS and SAS Similarity Theorems	Doing: Teacher will be reviewing previously learned material by asking for clarification and setting up proportions.	Students are giving feedback, asking questions, and participating in the discussion.	
	Thinking/Possible Questions or Misconceptions:	Possible Responses/ Questions to Pose: What does the SSS and SAS Similarity Theorems tell use about proving triangles similar?		
Engaging students with concepts <i>(Exploring, investigating, problem solving)</i> The teacher will direct students to the Sketchpad and get them started on discovering the properties of similar triangles	Doing: Students will begin exploring the idea of similar triangles through the use of the Geometry Sketchpad. Students will work individually at a computer and follow the steps provided through a hand-out.	Doing: Remind students of previously learned concepts and assisting students with the Geometry Sketchpad as needed. Address the worksheet grid provided to students and how it is to be used.	They will be working on the Geometry Sketchpad and filling in the worksheet provided.	

	<p>Thinking/Possible Questions or Misconceptions: What do I do to find the ratios using the Sketchpad? How do I make a line parallel on the Sketchpad?</p>	<p>Possible Responses/ Questions to Pose: Assist students with the use of the sketchpad as needed.</p>		
<p>Sharing ideas/solutions <i>(Whole group, small group, written)</i> Students will work in a small group, using their knowledge of similar triangles, to estimate the height of the flagpole in the opening question.</p>	<p>Doing: Working in groups outside and using similar right triangles, and lengths of shadows to determine the height of the flagpole.</p>	<p>Doing: Supervising the group activities and posing questions as needed.</p>	<p>Draw a picture of the activity. Working with their group, measuring the participant, measuring the shadows of the participants and the flagpole to estimate the height of the flagpole.</p>	
	<p>Thinking/Possible Questions or Misconceptions: What do we need to solve this?</p>	<p>Possible Responses/ Questions to Pose: How does this relate to the triangles on the Sketchpad? What measurements do you need? Which sides correspond?</p>		
<p>Closure/Summarizing <i>(Tying ideas together)</i> Discussion of what has been learned and how similar triangles are used to determine the measurement of unattainable objects.</p>	<p>Doing: Listening and discussing. Comparing results.</p>	<p>Doing: Facilitating the discussion.</p>	<p>Discussing, sharing results, giving input.</p>	
	<p>Thinking/Possible Questions or Misconceptions:</p>	<p>Possible Responses/ Questions to Pose: What results did you get? How does this relate? What else could this be used for? What else might you want to know the height of?</p>		