

Upon looking through the resources provided during this course, I have been drawn to the Teach Engineering website. The data source that I have chosen is Scaling, Go Figure! My seventh graders will be entering into the lesson of scale factor soon. Scale Factor falls into the unit of Ratios and Proportions, which is a big and dominant unit in 7th Grade Math. With this Scaling, Go Figure lesson, students will be able to experience what happens to a figure (area, perimeter, angles) when it is enlarged or reduced in size. Factor content is a topic that I struggle with to engage my students, so in years past I have used what is called the Wump Family. The Wump Family and the Scaling, Go Figure lesson can complement each other.

Scale Factor Lesson: https://www.teachengineering.org/lessons/view/mis_scaling_lesson01

Wump Family:

https://drive.google.com/file/d/1haZPPye65RRKzsubTZhSFsMLI_E4v9I5/view?usp=sharing

Students will be using a measuring tool to measure the enlarged and reduced versions of the original floor plan. The students will see how it affects the image proportionally. Just as they do when they take pictures, they will understand what that zoom in number means, such as 1.5 and 2.0. Students will understand mathematically what that value means. The Scaling, Go Figure lesson is a good introduction lesson to scale factor.

Honestly, I fear that some students will have some slight difficulty with measuring the figures. Not so much that the students have trouble using a ruler, but just that the reduced image is so small, so I may need to tweak the data image to be more user friendly. Also, the lesson will need students to calculate the area and circumference of a semi circle, therefore, a mini lesson or review on how to calculate area and circumference prior to the lesson. Other than these issues, the data this lesson provides will help reinforce the ratio and proportion unit.

There are three interdisciplinary contents that this data could be used for, Geography/Social Studies, Language Arts, and Art courses. In Geography, students are using the scale factor to determine a distance on a map. Students should not only be able to read a map and determine the distance based on the scale factor, but they should also be able to create the scale factor. (However, technology will give students this information, but someone has to design and create it.) The other content area is art courses. They take their forms of art and enlarge and reduce their images. These images not only will need to be pleasing to the eye, but

also pleasing mathematically. This art form could be an image or a model of a real life object. Students can take the questions in the lesson and form develop a report of their findings and reflect on these findings. The best way for a lesson to go from short term memory to long term is allowing students to reflect on their learning.