

Name: _____

In this chapter, we have been studying area and perimeter of polygons, similar figures, and sectors. So you will be designing and creating a model of a building or structure and discussing what the dimensions would be if you were to build the full size building. An example would be you could create a small 3-D model of a gazebo, with a floor that is only 8 inches across, but if you were to build the full size model, it would be 8 feet across. In order to make sure the models are appropriate and achievable, we will be drawing up blueprints in one of our classes together.

The models you will create will have to be to scale, 3-D models. You will have to determine how you would like to create this model which is why we will have plenty of time to complete this assignment. Try not to use anything too heavy or fragile to build your model, try materials like paper mache, soft clay, self-drying clay, plaster of paris, etc. In addition to the model, you will create a pamphlet, flyer, or poster to go along with it describing the dimensions of your model and how it compares to the dimensions of the full size building. You could even find a creative and effective way to label the dimensions on the model if you'd like.

Here are the requirements of this project:

Model:

- 100% hand made, no store bought toys or 3-D prints
- Blueprint is turned in before construction of the model begins
- Model matches the dimensions on the blueprint
- Model is submitted with flyer, pamphlet, or poster with details on the dimensions of the full size model, and the mini model you have constructed

Mathematical Requirements:

- You had to find the area/perimeter of at least 4 different types of polygons
- You had to find the area/perimeter of at least 2 curved surfaces (circles and sectors)
- Each surface (a roof, floor, wall, pillar, etc) has the area measured
- Each doorway, entryway, and window will have the perimeter measured

Flyer Requirements:

- The area and perimeters that you measured on your model will be scaled to the full size model
- The perimeter and area ratios will be identified and explained

3-D Scale Model Project
8th Grade Geometry

	0-1	2-5	5-7	8-10
Proofreading, English, Mechanics, Grammar, and Mathematical Accuracy	Understanding of this writing is compromised by the mechanical, grammatical, or mathematical mistakes.	Contains more than a few mistakes, occasionally causing confusion for the audience. There are many grammar or mathematical mistakes.	There may be one or two mistakes regarding mathematics or mechanics, but these errors do not distract the reader or viewer. Grammar is sound.	Writing or speaking has no mathematical, spelling, capitalization, or punctuation errors. Grammatically, makes little to no mistakes.
Creativity, Originality, Quality of Project, and Medium used	Project shows no original thought. Poor design, use of color, and detail.	Project shows very little original thought. Below average design, use of color, and detail.	Project shows some original thought. Good to average design, use of color, and detail; overall good looking project.	Project shows a large amount of original thought. Excellent design, excellent use of color, excellent detail; overall great looking project.
Time/Effort and Participation	Students didn't use class time appropriately.	Class time was rarely used appropriately.	Class time was used effectively. It is obvious the student spent time planning and effort in execution.	Class time was used very effectively. Much time went into planning and execution.
Required Components	Student fulfilled few mandatory requirements.	Student fulfilled some mandatory requirements.	Student almost fulfilled all mandatory requirements.	Student effectively fulfilled all mandatory requirements.