

3D Modeling Project

Name(s): _____ Block: _____

Phase 1: *Create a scaled blueprint (using graph paper will make the scaling easier) of a facility or complex of your own design (park, town, etc.). Verify with Mr. Zollinger whether your facility or complex idea will work for this project.*

This facility or complex must contain at least 8 structures/attractions which are each modeled after at least 5 different types of geometric solids. Geometric solids include prisms, pyramids, cylinders, cones, icosahedrons, tetrahedrons, hexahedrons, octahedrons, dodecahedrons, and spheres.

You must indicate the scale used for your blueprint (i.e. 1 foot = 1 inch, 1 foot = 0.5 inch, 1 foot = 1 cm).

*Every structure on your blueprint must be labeled with a name, a description of its function, and its **real** dimensions.*

On a separate page, you will calculate the volume and surface area of each major structure in your park. You will also calculate the area of your entire park.

*Your blueprint should be **VERY NEAT**. Use a ruler to help create your straight edges as much as possible.*

Grading Rubric:

1. Blueprint is scaled correctly (include an explicit statement of the scale used and and the real dimensions for each structure)	0 1 2 3 4 5 6 7 8
2. At least 8 structures	0 1 2 3 4
3. At least 5 different geometric solids modeled	0 1 2 3 4 5
4. Each structure is labeled with name, description, & dimension	0 1 2 3 4 5 6 7 8
5. Volume calculations for each structure	0 1 2 3 4 5 6 7 8
6. Surface Area calculations for each structure	0 1 2 3 4 5 6 7 8
7. Area of the entire facility	0 1
8. All work is neat and well-organized	0 1 2 3 4 5 6 7 8
9. EXTRA CREDIT: Blueprint details and information are above and beyond the requirements specified	_____

Total Score: ____ / 50

Phase 2: Build a scaled 3D model of your facility following the blueprint that you created.

Grading Rubric:

50+	<ul style="list-style-type: none"> • Model is built to scale • Model contains very detailed representations of at least 8 geometric solid structures • Model design matches the blueprint • Extraneous details included in addition to the details on the geometric structures (i.e. paint, people, animals, trees, plants, benches, etc.) • Additional geometric structures are used in park
45	<ul style="list-style-type: none"> • Model is built to scale • Model contains very detailed representations of at least 8 geometric solid structures • Model design matches the blueprint
40	<ul style="list-style-type: none"> • Model is built to scale • Model contains somewhat detailed representations of at least 8 geometric solid structures • Model design matches the blueprint
35	<ul style="list-style-type: none"> • Model is built to scale • Model contains basic representations of at least 8 geometric solid structures • Model design matches the blueprint
30	<ul style="list-style-type: none"> • Model is not to scale • Model contains basic representations of at least 5 geometric solid structures. • Model design and the blueprint are inconsistent
0-30	<ul style="list-style-type: none"> • Model is not to scale • Model contains basic representations of less than 5 geometric solid structures. • Model design and the blueprint are inconsistent