

3D Geometry Project

Instead of a final exam, I will let you discover the beauty in mathematics and share it with your classmates. Impress me with your creativity! Research a topic in solid geometry. Prepare a presentation to the class on your topic. Make sure you have visual aids: either models or diagrams. Write a short paper summarizing your topic and what you learned. Cite your sources. Remember, this is worth a lot of points!

Models: you may use any type of materials, some suggestions: straws, toothpicks, marshmallows, Playdoh, poster board

Diagrams: you may have posters, overhead transparencies, computer slides, pictures from a web site
Let me know if we need to borrow a projector to hook up with a computer.

Some topics:

Geometric Sculptures www.georgehart.com

Geometry on a sphere (non-Euclidean geometry) (ask me about a riddle for this one)

Semi-regular polyhedra

Why are there only 5 regular polyhedra?

Short Novels: Flatland; Sphereland

Selected Geometry Sites on the Internet

<http://forum.swarthmore.edu/geometry/selected.geom.html>

<http://forum.swarthmore.edu/geometry/coll.selected.geom.html>

<http://forum.swarthmore.edu/models/choices.html>

Geometry Junkyard

Paper Models of Polyhedra

Encyclopedia of Polyhedra

www.geocities.com/SoHo/Exhibit/5901/index.htm

www.voicenet.com/~techos/geom.html

Chemist's Art Gallery

Geometry in Action (real world applications of geometry)

Expectations:

Topic chosen is about solid or 3D geometry or 2D representations of 3D objects

You must have your topic pre-approved!

Quality visual aid(s)

Vocabulary use: correct terminology (new vocab is a plus)

Expertise: learn enough about your topic to answer questions from an ignorant audience (your class and me)

Class Presentation: organized, clear, interesting voice and manner

Originality: everyone must choose a different topic or a different aspect of a topic

Paper: neat, clear summary with details as needed, watch spelling! Accurate list of sources.

Timeliness: we will randomly choose the order of the presentations; you will lose points if you are not prepared or absent.