El Pueblo: The Watts Towers

By Sam Simon

Project Description

A Community of Towers

Project Description:

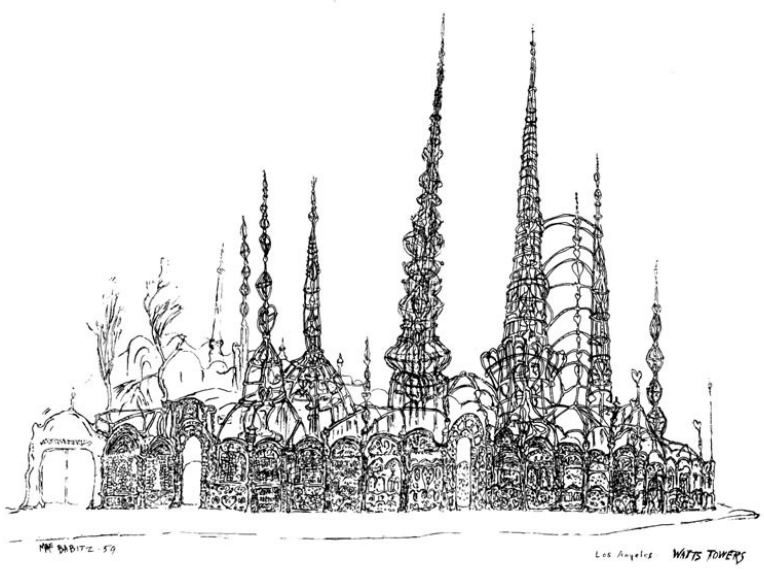
As an inquiry into the properties of different solid matter you and your team will work together to create a tower out of “trash.” After your tower is built, you and your team will present your work along with the commentary about what you learned as a team member, an artist, a scientist, and an engineer. As a culminating activity, all the towers will be arranged together to create a “pueblo” or “town” that represents your community.

You will need to work together collaboratively to

- Create a design of your tower
- Consider the structural integrity of your tower (how strong and stable it is)
- Consider the aesthetic impact (how it looks and how people respond to it)
- Plan the construction of your tower
- Build and test your tower to ensure that it can withstand an earthquake test
- Create and give a presentation about your work and learning process
- Reflect on your understanding of solid materials throughout this process

You will be evaluated on

- ❖ How you collaborate with your team
- ❖ The detail and completeness of your design
- ❖ Your project plan
- ❖ Your explanation of how and why you included certain elements in your design
- ❖ Your interactive notebook responses
- ❖ Your final presentation



CONSTRUCTION Criteria and Constraints

Structure	Materials	Connections
☐ Reach a minimum height of 3 Feet ☐ *Must fit a 1ft by 1ft platform ☐ *Must be able to be transported across the room ☐ Can have little or no visible evidence of stress after an earthquake test (torsion, shear, compression, bulge) ☐ Must be the structure depicted in written/drawn plan	☐ Incorporates a variety of materials ☐ *Materials are chosen based on their properties ☐ Must be made of T4T materials or found materials	☐ Uses at least 2 connection types ☐ *Cannot use tape or glue

DESIGN Criteria and Constraints

Plan	Drawing	Revision
☐ Must have an idea or feeling to be expressed ☐ Must create a design that expresses the focus idea or message ☐ Includes ideas or elements from all team members ☐ Considers the aesthetics and color of material type ☐ Considers how materials function and interact	☐ Must include all the component parts ☐ Must depict and label materials used ☐ Must depict how pieces will be connected ☐ Shows more than one perspective ☐ Has close ups of details ☐ Must include a rational for decisions	☐ Every change is depicted in the plan ☐ Changes are documented in different colors ☐ If necessary revisions are documented on new paper or overlaid with post-it/taped papers ☐ *cannot erase

Wonderings and Questions

How and why would understanding your materials help you build a better tower?