

SAMPLE Bridge Design Document:

Add a Title: Team Name 3D Bridge Design Document

Research:

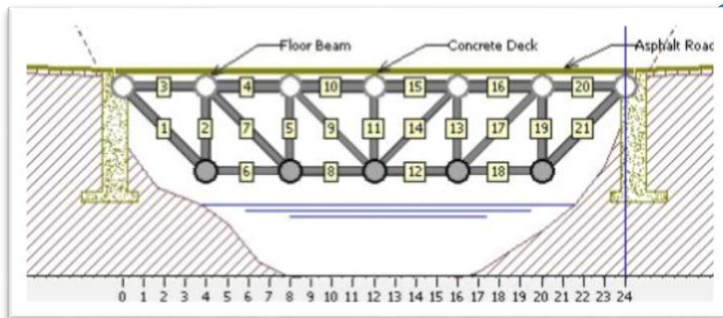
In this section students will answer a research question related to their project. They will be scored on the relevance of their question, how well they answer the question and cite their sources. (3 or more reliable sources)

Sample Questions:

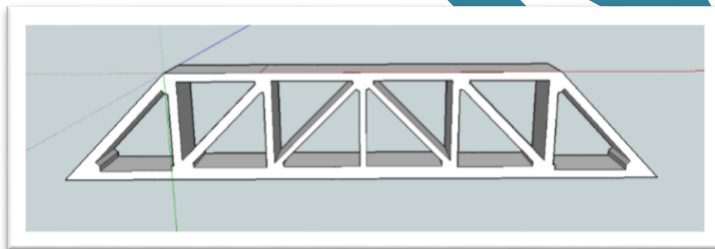
- What are the benefits/limitations of different bridge structures?
- What roles do compression and tension play in a bridge structure?
- What makes a good bridge?

Specifications:

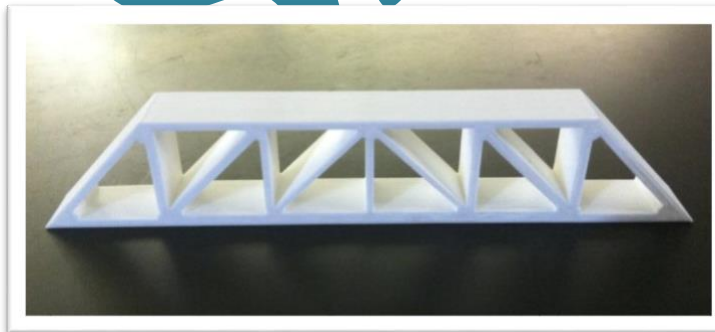
Drawing Board View of Bridge (from West Point Bridge Design):



3D Model of Bridge (from Sketchup):



Picture of actual Bridge:



Bridge Dimensions:

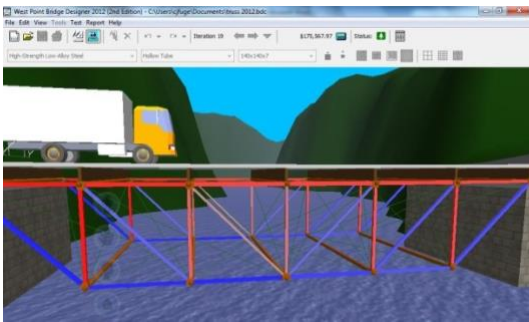
Length: 212mm

Width: 22mm

Height: 38mm

Testing:**Virtual Testing:**

Students will explain how they designed and tested their bridge in the West Point Bridge Design program and what modifications they made to improve its structural efficiency. This could include minor adjustments such as increasing/decreasing the size of individual components; or major changes such as complete redesign or use of a completely different structure.

Picture of Load Test in WPBD:**Physical Testing:**

Students will describe what modifications they made after testing their bridge past its breaking point. They should include a picture of the broken bridge and explain what changes were made to increase strength and prevent repeated failure.

Picture of Broken Bridge:**Conclusion:**

We decided to... We also ... to increase structural efficiency. Then we ... to increase the strength of pieces 4 and 16 so they didn't break again. From our research we learned that ...