

Joel Wagner
Bridge Breaker

The purpose of this project is to test whether an arch or suspension bridge can support more mass. I hypothesized that the suspension bridge could hold more mass. After finding blueprints on the Internet, I built both bridges out of toothpicks and string. Then I stapled each end of the bridge to a 2x4. I placed the boards on 2 sawhorses and placed a small dowel in the center of the bridge. I applied gram unit weights on the dowel until the bridge reached its breaking point. After recording the results for the first bridge, I repeated this process with the second bridge. The data collected did not support my hypothesis. While the arch bridge held 4 kilograms, the suspension bridge only held 2.15 kilograms. The findings of this experiment could be used when building bridges. Bridges that incorporate the arch design tend to be stronger.