Date:

Wednesday Challenge Form

Group Members: Ara, Erin, David, Kevin

Problem Statement: : Design a bridge made of spaghetti and wood glue. Goal is to make the highest efficiency bridge. Efficiency is defined as the ratio of the supported bridge weight to the mass of the bridge weight to the mass Of the bridge. The span distance will be 24 inches. Each group will have 100 Practice pieces of spaghetti and for the final.

Approach: My group decided to approach the situation by Utilizing the elastic properties of the wood glue on the spaghetti. After making a support on the right of the bridge we decided to create A semi-elastic, semi-firm bridge. While testing with other Concentrations of glue and spaghetti, we found that a light coat with Several pieces of spaghetti was the most effective in creating a cable that Could support the milk gallon easily. Unfortunately, we were short on Time especially near the end of the challenge. Therefore we rushed a Simple design of the center of the bridge, and tried to apply Counterweights near the end. Later when we tried to apply the bridge On the cinder-blocks we realized that our latest coat of glue was too Much and imploded the bridge by its own weight. Separately, we tested The strength of the bridge with blocks and were able to hold the entire bucket

Solution: Our weight was 291g. We supported 0.0 grams and Therefore our ratio is 0.

Lessons Learned: I learned that a bridge design requires a full Set of pieces and not just a strong center. By using the ends as anchors For the bridge I will be able to create a more effective bridge next time.