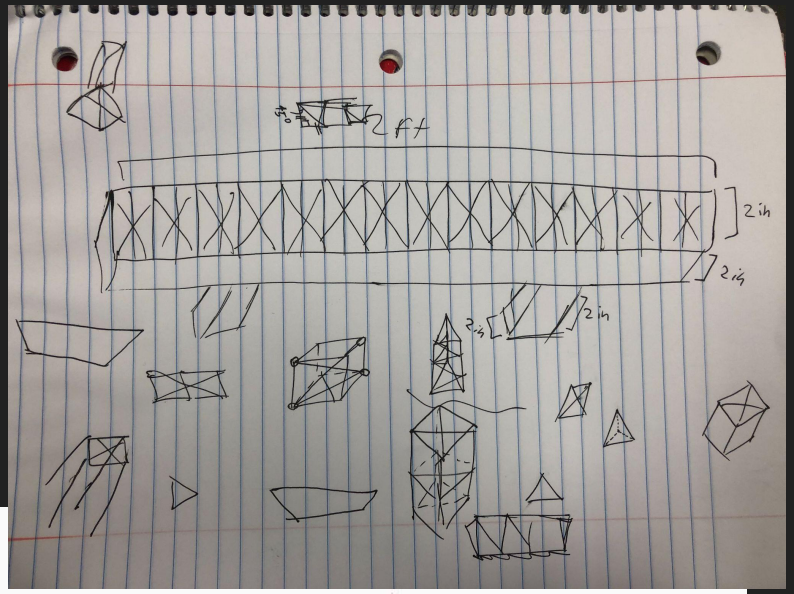
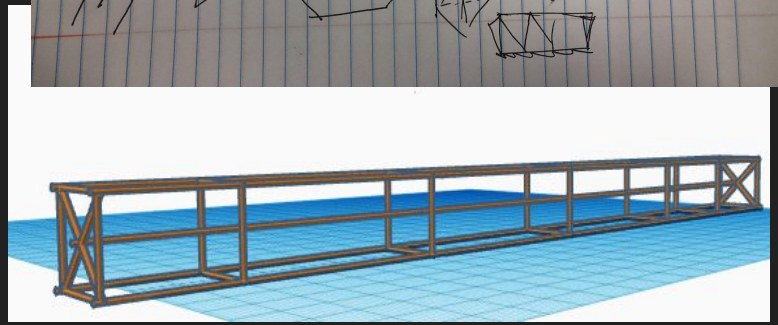
Spaghetti Bridge

By Tigran, Maudy, Lyza Rose, and Brandon.

Draft, CAD and Blueprints



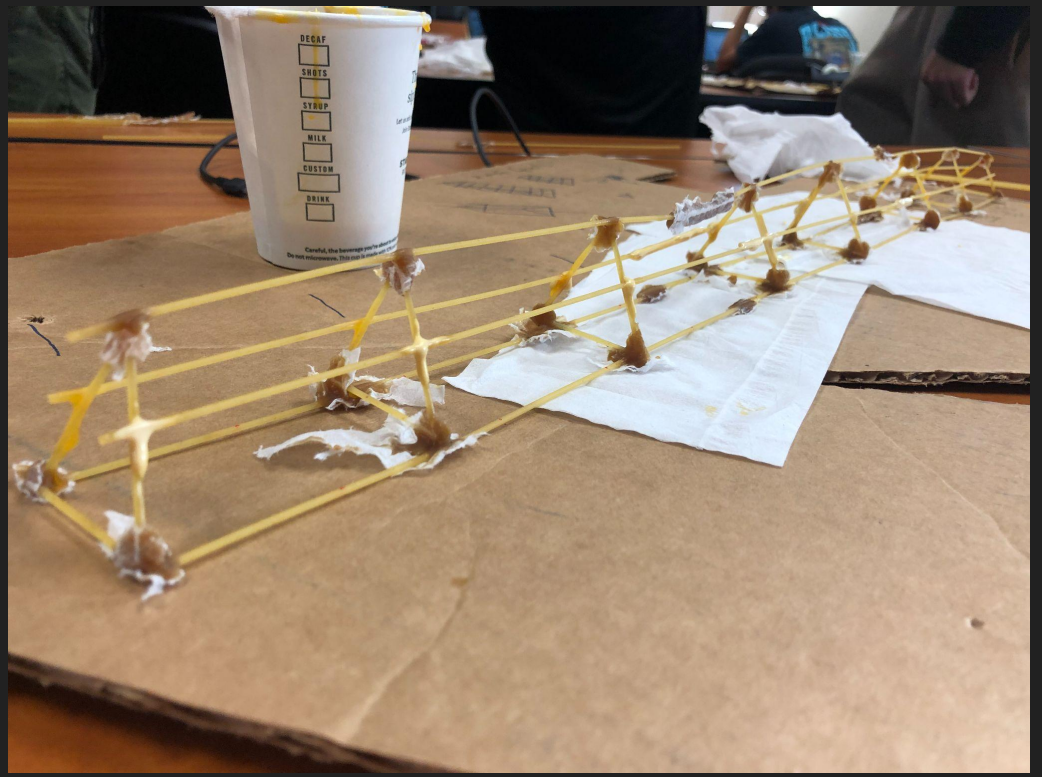


The bridge was first meant to be in square shape but was later transformed into triangle shape. In theory triangle shaped bridge should be safer than square shaped bridge because for more support between the base which will hold the bridge together.

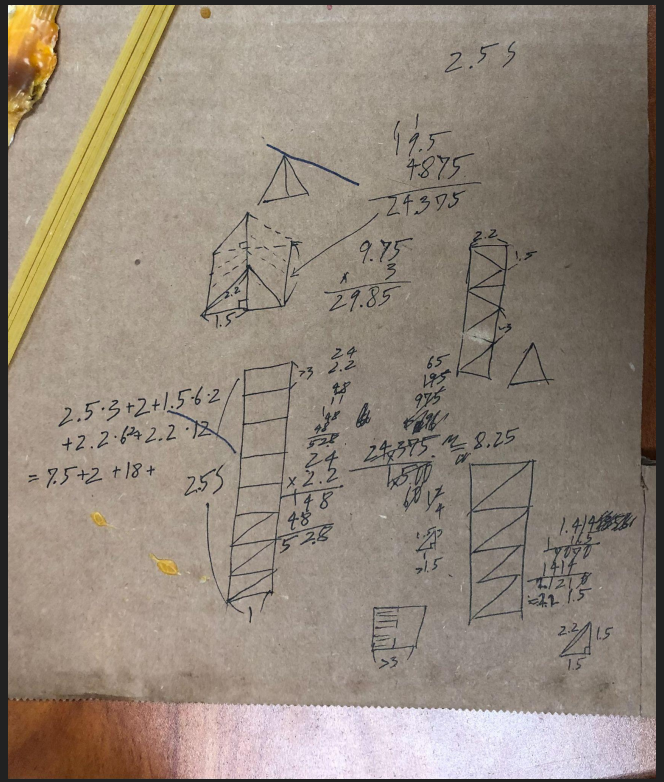
Bridge No.1 Assembly

Bridge No. 1 Final Result

What to do better for the next attempt: Add more glue, avoid the structure sticking to paper which will be a reason for unsafe and unsecure structure.



Bridge No. 2 Planning



A 3D version of a 2D shape uses around 50% more noodles. If a 2D bridge were built instead of a 3D bridge, the noodles conserved by skipping a dimension could be used to reinforce the smaller structure.

The idea was to lay out a basic railroad track shape, and then fill in the gaps with Xs and horizontal bars.

Bridge No. 2 Assembly

The plan at the time would have used over 20 noodles, so the bridge was cut in half lengthwise and the 2 halves were glued side-by-side.

1

2

The test broke both ends of the bridge off and showed that it was too short.

Around 4 more inches were annexed, the ends were glued back on and reinforced with leftover noodles.

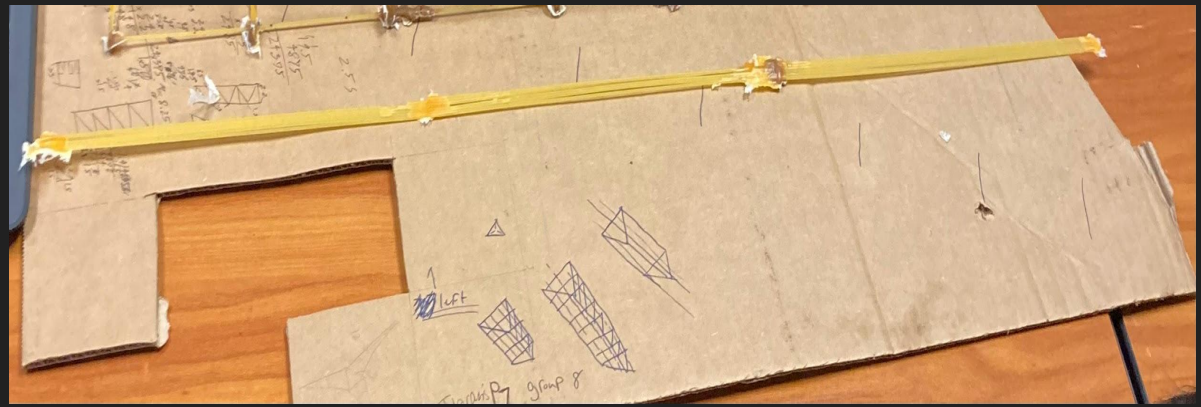
3

Bridge No. 2 Final Result

The bridge broke after the test which was unfortunately not recorded.

For last bridge we added more glue and made it simple.

Bridge No. 3 Assembly

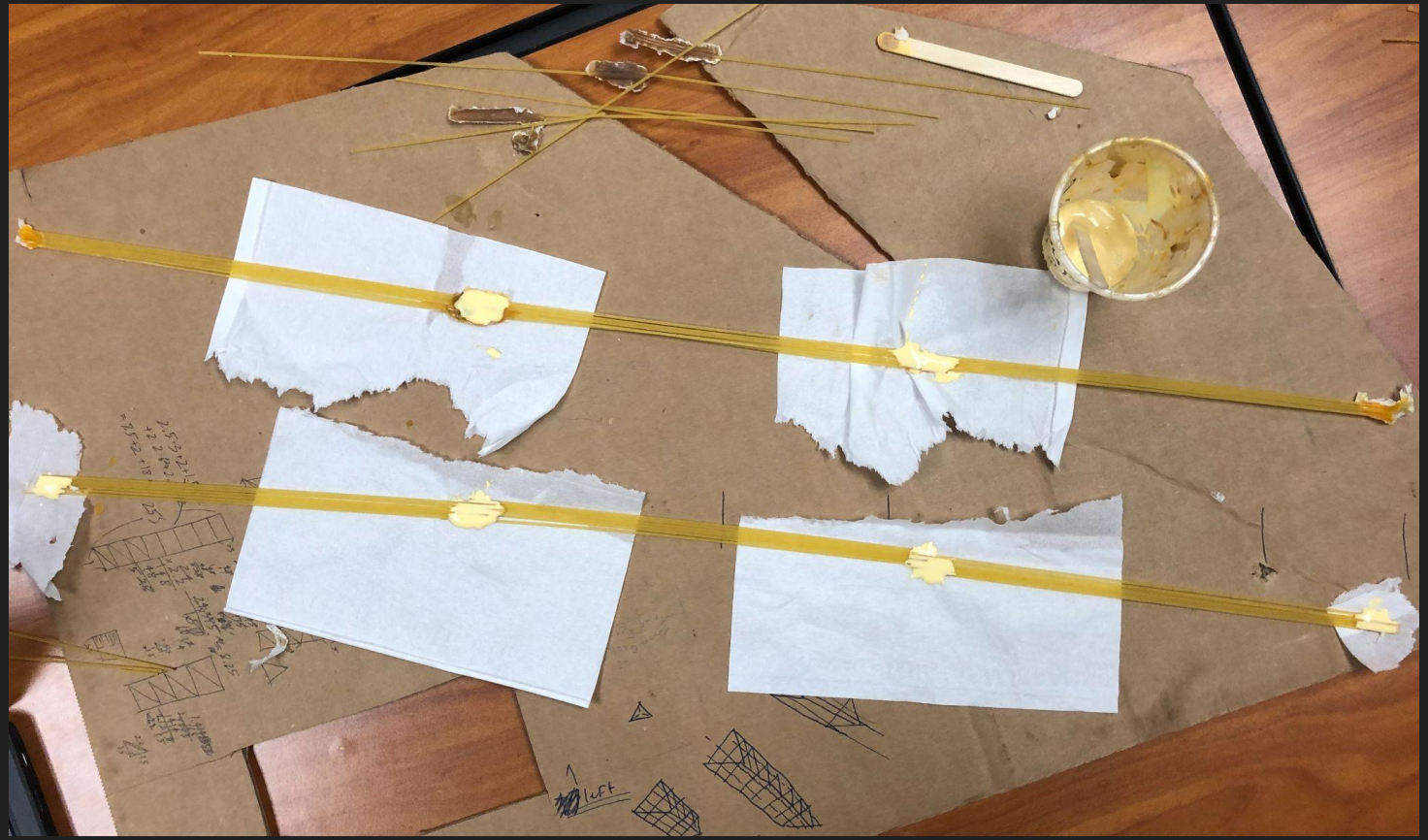


We made this third one just in case the other 2 didn’t work. We glued the spaghetti

Into a straight structure.

Bridge No. 3 Final Result

(Second one is extra in case if it broke)



Test results

Bridge 1:

Weight: 19.8g

Weight of water: 19.8g

Total score: 1

Bridge 2:

Weight: 18.4g

Weight of water: 460g

Total score: 25

Bridge 3:

Weight: 12.7g

Weight of water: 377g

Total score:30