Bridge and wood glue

A bucket must be able to be suspended from the bridge. 5. The bridge must hold its shape at least 10 seconds. Procedure: 1. Each group will design and build a freestanding bridge. First decide what 2. Using your blueprint, create a model of your bridge using toothpicks and type of bridge you will build and create a blueprint of the bridge on graph paper. Wood glue. Each group is only allowed 500 round toothpicks (2 boxes) and wood glue. You may decorate your bridge in any way, shape, or form as long as it does not help structurally. (remember keep the mass low) 3.

Present your bridge to the class. Explain the rationale behind your design. 4. Measure the bridge for length and mass (record results in data table) 5. Suspend the bucket from center of your bridge to test how much weight you 6. With your partners answer the analysis questions and type your lab write-up to bridge will hold before it breaks under the load. (record results in data table)be turned in Mass: gag Length: 14" Width: 2. 25" Height: 3. 5" Total Load Held: 23. 3 lb Analysis: 1 . How did you come up with the initial design for your bridge?

We Just pieced together the ideas of triangles being the strongest, and looked at bridges made with those. 2. Did your design change as you built your bridge? Yes. Originally, we were going to do a straight design with Just triangles. Then, we there wasn't enough on the bottom to keep it upright. 3. Which geometric shapes did you use in your bridge? Why? Arcs and triangles because they are the strongest supporters and they are used in many real-life bridge designs. 4. WSDL you make any changes in the design of your bridge?

We would make the bottom part longer because the only reason it broke when it did was because they weren't long enough to support it. 5. What is the name of a horizontal beam used for support? A girder. 6. What is the name of a rigid triangular framework? Truss 7. How did the forces of compression, tension, and torsion affect your bridge? The weight pulling down on the bridge pulled down on it, causing it to bend downwards. This made it flex and adjust to the weight. After too much bending, though, it was too short and fell. The force of the falling broke the girder along the top.