

## **Wood Stick Bridge Rules**

The wood stick bridge competition uses participants' structural engineering skills, creativity, and teamwork skills. Each team will be judged based on their wood stick bridge's loading capacity. Aesthetics will be awarded as bonus points.

Participation: Each school may enter one team in the competition. Each team may have no more than 8 participants.

### **Rules:**

1. Use only the materials provided by the host during the competition.
  - a. Wood Popsicle Sticks– 4.5" x 3/8" x 1/12" - (120 sticks)
    - Sticks may be broken into pieces
    - In case of a tie score, for the purposes of sustainability, a partial stick will be counted as a full stick (i.e., 2 half sticks = 2 sticks)
  - b. Glue (Elmer's glue, 7.6 oz bottle)
  - c. Markers (to identify the school and/or decorate the bridge)
2. Loading
  - a. The bridge will be top-loaded. We will place a wooden platform on top of the wood stick bridge and add weights until the bridge cracks.
  - b. The bridge must support the weight for 5 seconds before another weight is added
3. Scoring
  - a. Points will be awarded as follows:
    - 25 pts - Supports highest load
    - 20 pts - Supports 2<sup>nd</sup> highest load
    - 15 pts - Supports 3<sup>rd</sup> highest load
    - 10 pts – All others
  - b. In the case of a tie, the bridge with the fewest number of wood sticks will be given a higher standing (i.e., more sustainable and higher strength to weight ratio)
4. A team cannot use other resources (people or materials) during the competition
5. Bridge must be constructed prior to the competition. Bridge must be available for inspection and aesthetics judging before loading.

### **Design criteria:**

- Bridge width: Minimum = 2", Maximum = 4"
- Bridge height: Minimum = None, Maximum = 7"
- Bridge shall span a gap of 10"

- No part of the bridge can hang below the roadbed more than two (2) inches.
- Lamination of the bridge deck is not permitted (i.e. no slab-type bridges are permitted); for the purposes of this competition, lamination means the gluing together of pieces of wood to form one larger (thicker) piece.

**Bonus Points:**

1. 1-5 points can be added for bridge aesthetics as determined by the judges
2. Bonus points cannot be used to determine the first or second place standings

**Judges:**

1. 2 judges will preside over the competition.
2. The decision of the judges is final