



CRAFT STICK BRIDGE BUILDING COMPETITION

RULES & SPECIFICATIONS

Specifications:

- The bridge itself may only consist of:
 - Wooden craft sticks (4.5" by 3/8")
 - Carpenters wood glue
 - No other materials may be used. Bridges may not be painted.
- The bridge must have a minimum total length of 18 inches (the length of 4 wooden craft sticks), and have a clear span of 17 inches. The bridge must have a minimum width of 3.75 inches, and a maximum width of 5 inches. The bridge must have a minimum height of 3.5 inches. There are no restrictions on the maximum length and height. See Figure 1.
- The center of the bridge must have a gap in the top and bottom to allow for a chain and hook to pass through it, so that a load can be applied to the bridge. This gap must be at least 1 inch wide and 1 inch long. The top of the bridge must have a flush surface around this gap, extending the width of the bridge and a minimum of 3.5 inches along its length. See Figure 2.
- No more than 2 craft sticks may be sistered/bonded together to form a single member. However, there can be an infinite number of craft sticks at a joint (see figures 3-6).

Bridge Loading:

- Each bridge will be weighed upon entry, with a completed entry form.
- Each bridge will be loaded using the apparatus shown on Figure 7. This apparatus consists of a block placed on top of the bridge, from which a bucket on a chain will be supported. Weight will be added incrementally to this bucket, until the bridge fails or the capacity of the bucket (approximately 100 pounds) is reached.
- Each entry will be ranked based upon the maximum load it supports at failure. In the event that multiple bridges reach the maximum load without failure, entries will be ranked based on bridge weight (i.e. lightest to heaviest).

Entries:

- Bridges must be submitted on the day of the contest. A completed entry form (included in this document) must be submitted with each bridge.
- Students must be no older than a rising high school senior.
- Students may work in teams of five or less, or individually. Each student can only submit one entry (whether individually or part of a team).
- The bridge must be the student's original work.

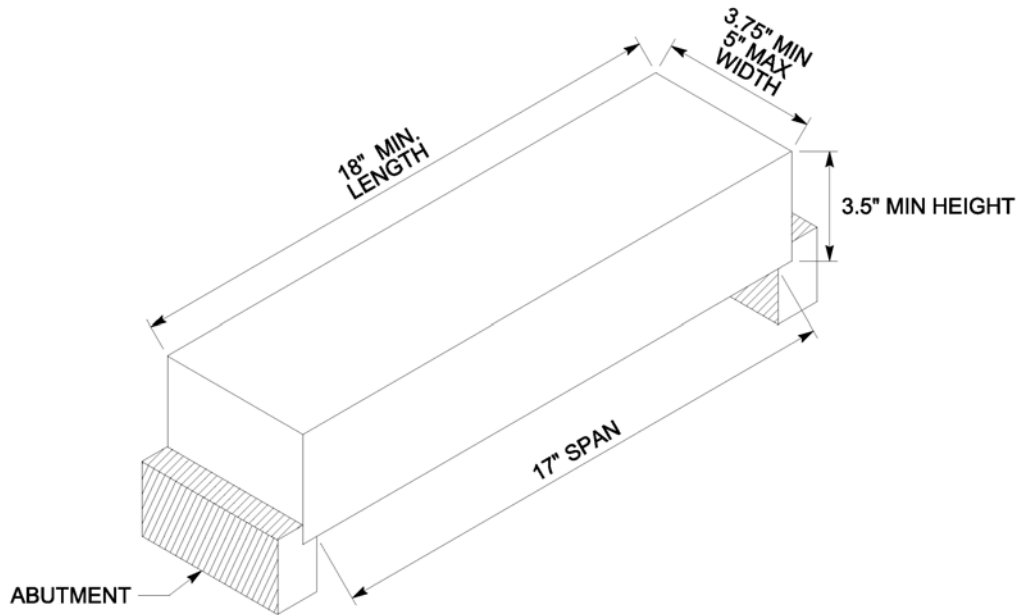
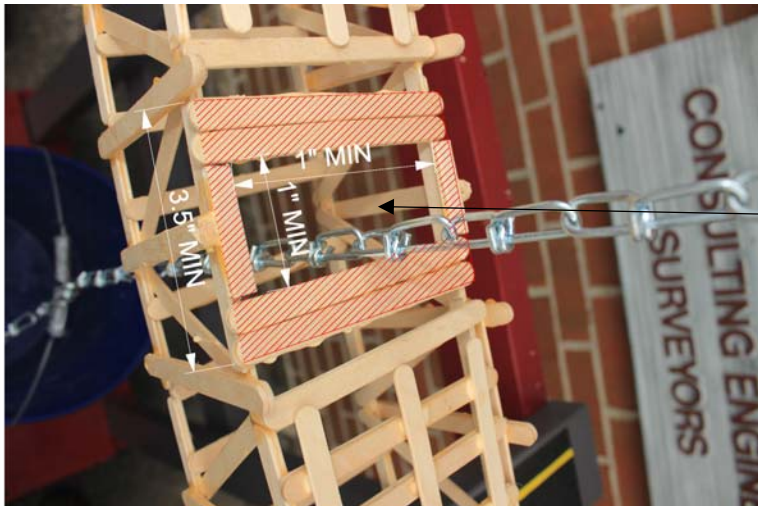


Figure 1



This area in the center of the top of the bridge must be flat, with a gap to allow for the passage of a chain, in order for the bridge to be tested.

Figure 2

Acceptable Bridge Examples:

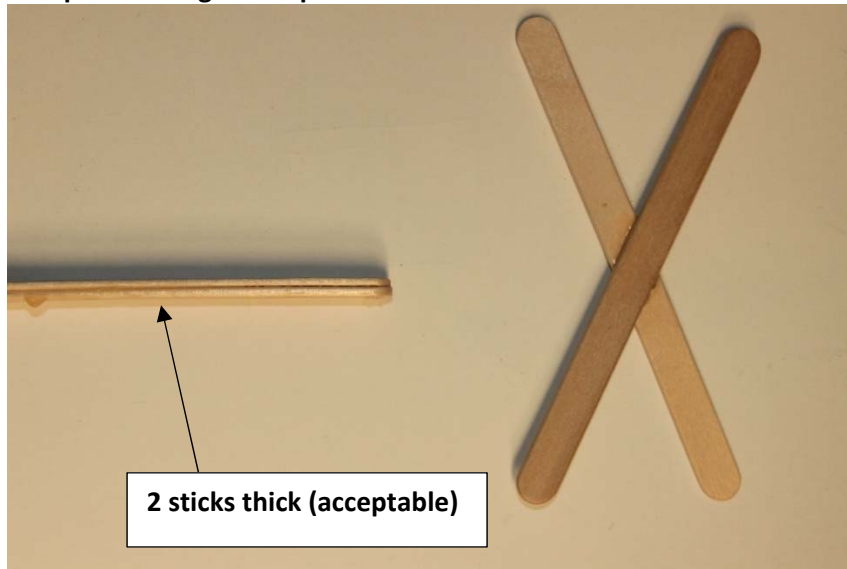


Figure 3

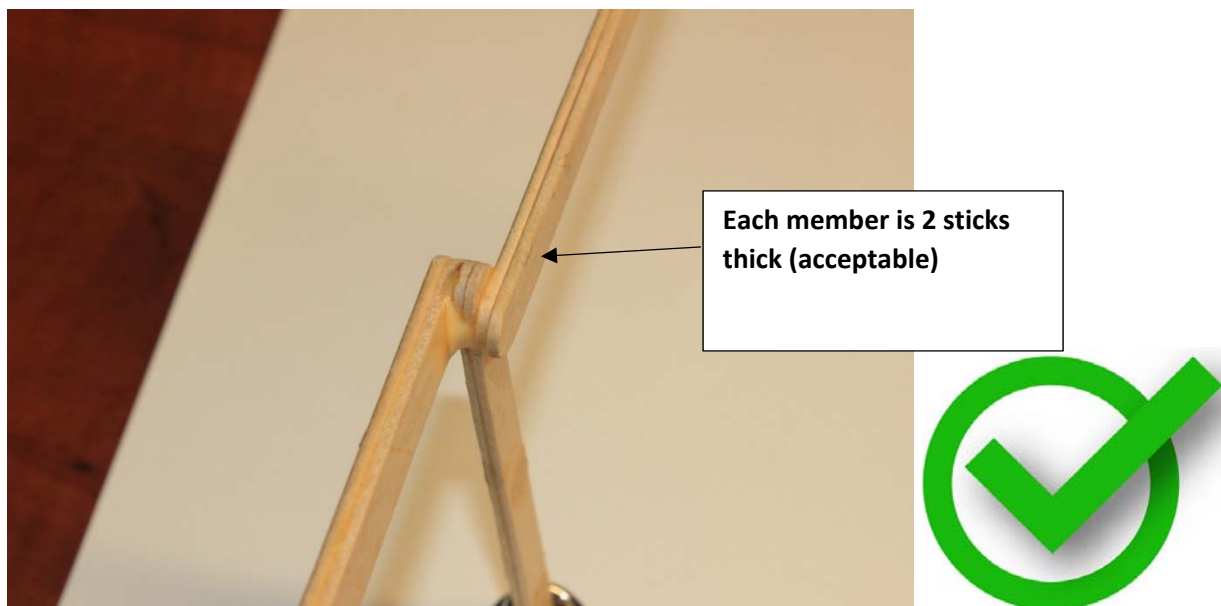


Figure 4

Acceptable Bridge Examples:

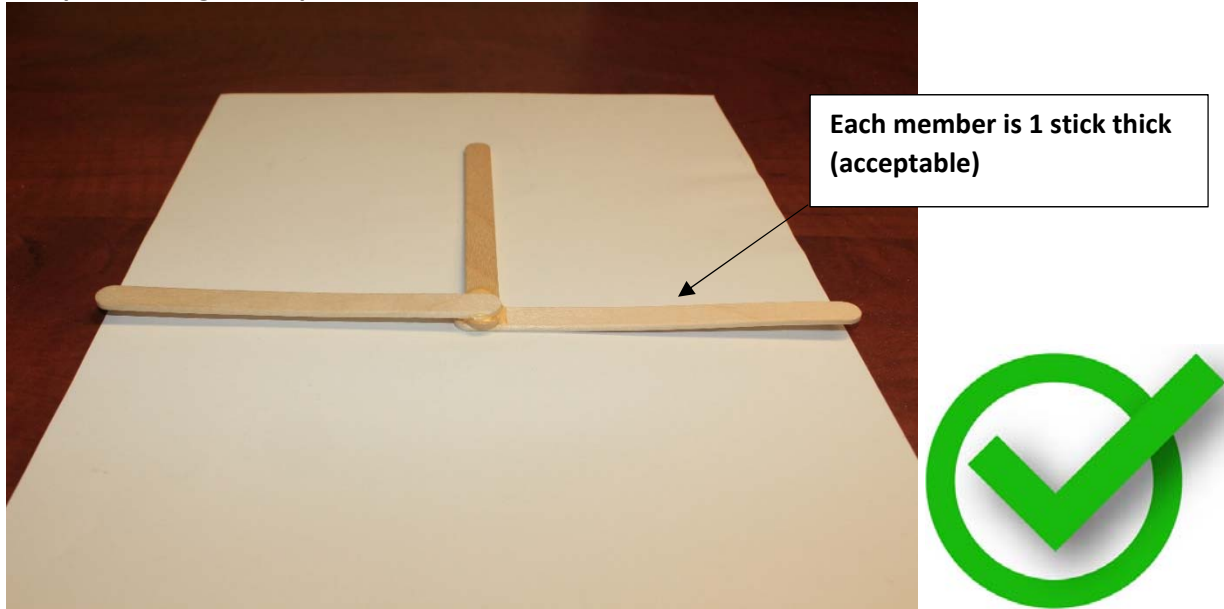


Figure 5

Unacceptable Bridge Example:

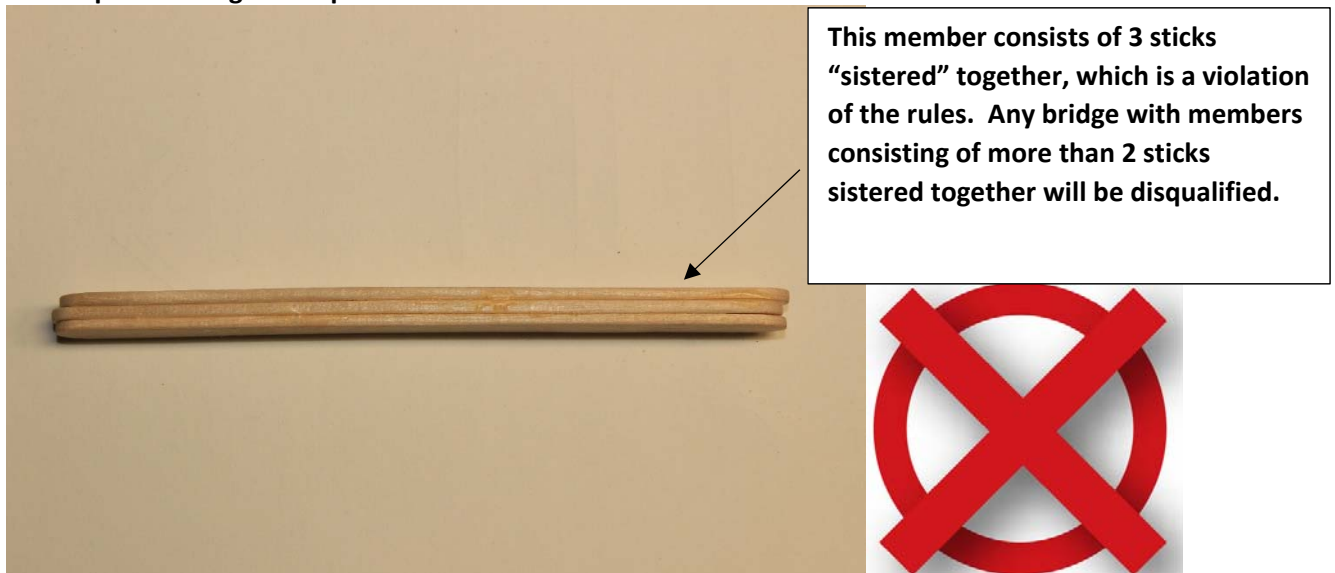


Figure 6



Sand and weights are added to the hanging bucket, which creates the load on the bridge.

Figure 7 – Testing apparatus



2019 Bridge Building Competition- Entry Form

Please bring a completed form, along with your bridge, to the competition.
Competition Held at Kingsport Civic Auditorium
July 20, 2019 10:00 a.m. to 1:00 p.m.

Student/Team Name: _____

School/Organization: _____

Grade: ____

Student:

Home Address	Contact Phone	Contact Email

Parent:

Name	Contact Phone	Contact Email

Team Members:

For Official Use Only:

Bridge Number:		Weight (lb):	
Length (in):		Qualified (Yes/No):	
Width (in):		Max Load Supported (lb):	
Height (in):			