

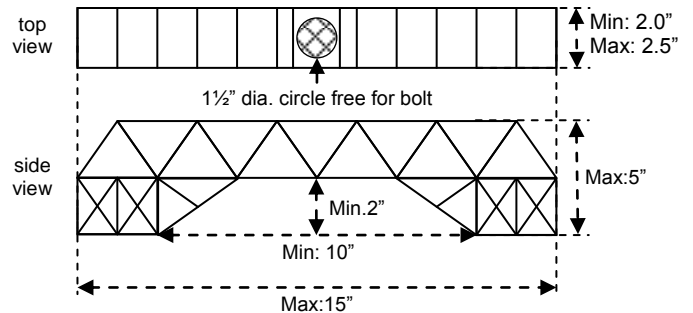
Bass Wood Bridge Project

Spring 2016

Rules:

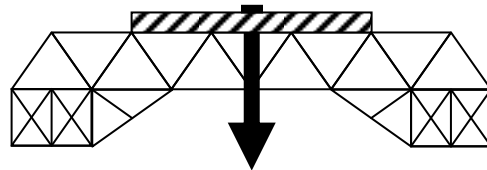
1. You may use only the 15 bass wood sticks and the bottle of glue provided.
2. You may not coat the bridge with any other substance (paint, varnish, glue, etc.)
3. There may not be multiple beams longer than 4 inches - two pieces of wood may not be placed together if they are more than 4 inches in length.
4. The bridge must meet these dimensions:

Maximum Length: 15"
Maximum Height: 5"
Minimum Width: 2.0"
Maximum Width: 2.5"
Span: cross a 10" gap
Height Clearance: 2" in center



5. There must be a minimum 1 1/2" diameter circle of empty space in the middle of the bridge for an eye-bolt to connect to the weights.

6. The top of the bridge must be flat to support a wood attachment measuring 8" x 3". The eyebolt and weights are connected to the bridge by this piece of wood.



7. There must be clearance for a toy car measuring 1" high and 1 3/4" wide to pass through the bridge.



Hints:

- ❖ Use as many triangles as you can. No wood should be thrown away.
- ❖ Keep a minimum of 1/8" away from all maximum and minimum dimensions.
- ❖ Miter the ends (cut slants) to give the maximum surface area for the glue.
- ❖ Make the bridge as level as possible. The weight is distributed more evenly on a level bridge.
- ❖ Make the bridge as small as possible. Don't waste wood making the bridge larger than necessary.
- ❖ Arches are strong. The wood can be bent by holding it over steam. Let the wood dry in a form made from nails on a board.
- ❖ Do not let the glue freeze.
- ❖ DO NOT TEST the bridge at home. This will weaken it.
- ❖ Let the bridge dry a few days before the test.
- ❖ Craftsmanship is as important as design.
- ❖ Check on-line for more helpful hints and videos.

Bridge Assessment:

Bridges are due on **Tuesday, March 29th**. On this day, each bridge will be checked to see if it meets the requirements listed previously in this document. The bridges will be tested on Thursday or Friday (3/31 or 4/1).

Any bridge not meeting the rules automatically drops down a minimum of 10 percentage points and will be ineligible for any prize for supporting the most weight. Any bridge not turned in on March 29th will lose 10 percentage points per school day. If you know you will be absent on the 29th, you must hand in your bridge on Friday, March 18th or sooner. No bridge – no points (0). Any bridge that meets all the specifications is guaranteed a passing grade. Grades are determined according to the chart below.

Grade	Weight in lbs.	Score
A	≥ 40	90% + .5% per lb over 40 up to 102%
B	$20 \leq w < 40$	80% + .5% per lb over 20
C	$10 \leq w < 20$	70% + 1% per lb over 10
D	$w < 10$	60% + 1% per lb
F	no bridge	0%

The builder(s) of the bridge that supports the most weight will have his/her name(s) immortalized on the OHS Geometry Bridge Building Champions Plaque. The top builder(s) will each win valuable prizes too great to be mentioned here.