

Dos & Don'ts

These are great looking bridges, but some don't meet all the rules. You are going to spend a great deal of time working on your bridge and want to see it tested.

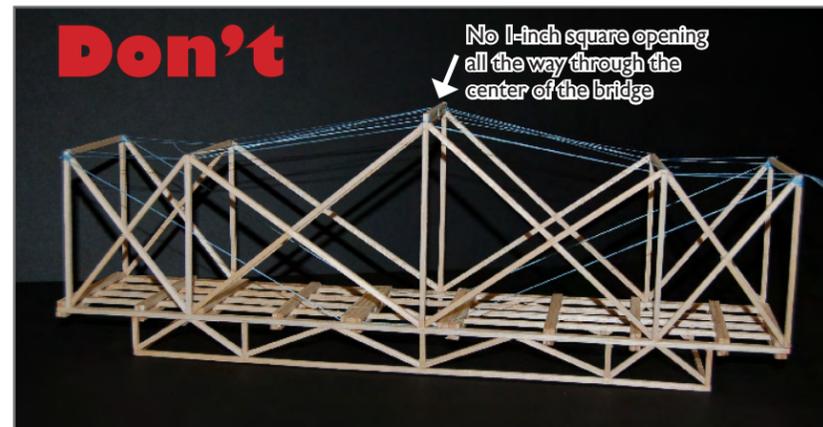
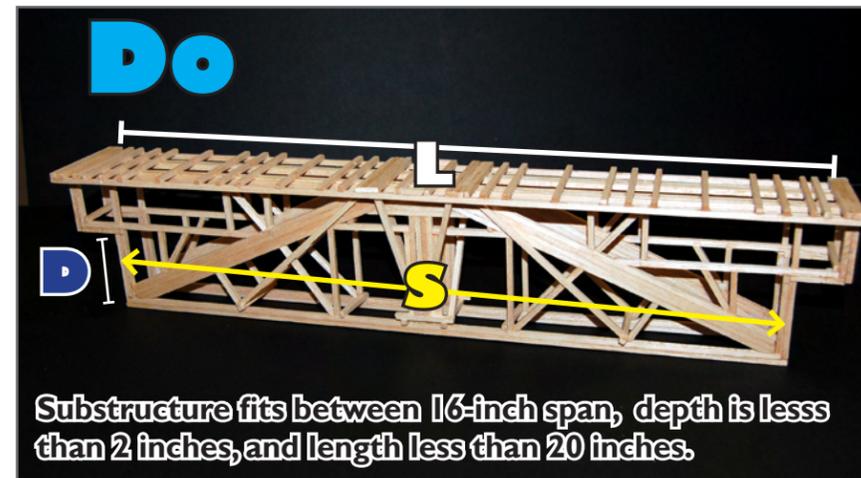
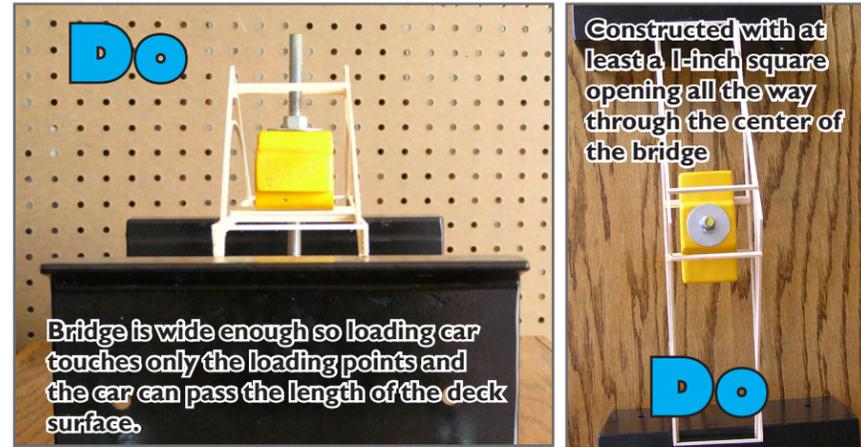
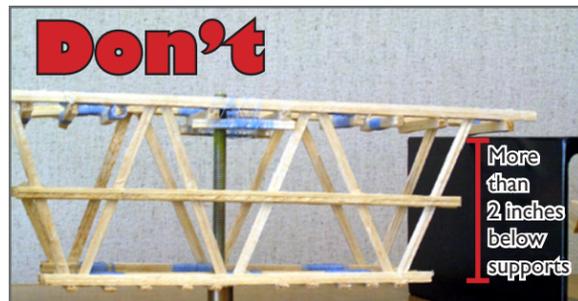
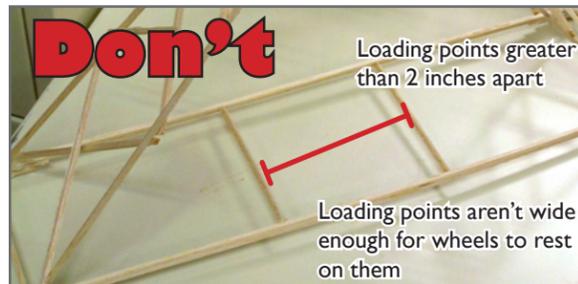
Follow the rules explicitly, and if you have any questions about competition rules, design, or construction, please contact us. It's *always* better to ask than be disqualified.

We highly recommend if you have any questions, contact us or send us a photo/drawing of your bridge before we pick them up.

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or 1-888-ASK-MODOT
(1-888-275-6636)



MoDOT's 5th Annual Bridge Building Competition for high school juniors & seniors OFFICIAL RULES

IMPORTANT INFORMATION:

1. USE THE RULES PROVIDED IN BRIDGE KITS. **ONLY THESE RULES PRINTED ON BLUE PAPER AND PROVIDED IN THE BRIDGE KITS ARE THE OFFICIAL COMPETITION RULES.**
2. We will pick up your bridge on Oct. 30-31. **Please attach your yellow identification tag provided in your bridge kit to your completed bridge before we pick up.** The bridges will be inspected at our office and any disqualified bridges will then be notified. If for some reason you do not complete a bridge entry, please return bridge materials.
3. If you are a senior interested in scholarships, **YOU MUST HAVE YOUR SCHOLARSHIP INFORMATION (INTENT FORM, ACT, TRANSCRIPTS) READY ON OCT. 30-31** WHEN WE PICK UP YOUR BRIDGE.
4. **YOU MUST BE PRESENT AT THE COMPETITION ON NOV. 20 TO WIN PRIZES.**
5. If you have any **questions, please contact us** toll-free at **1-888-275-6636.**

Official Rules

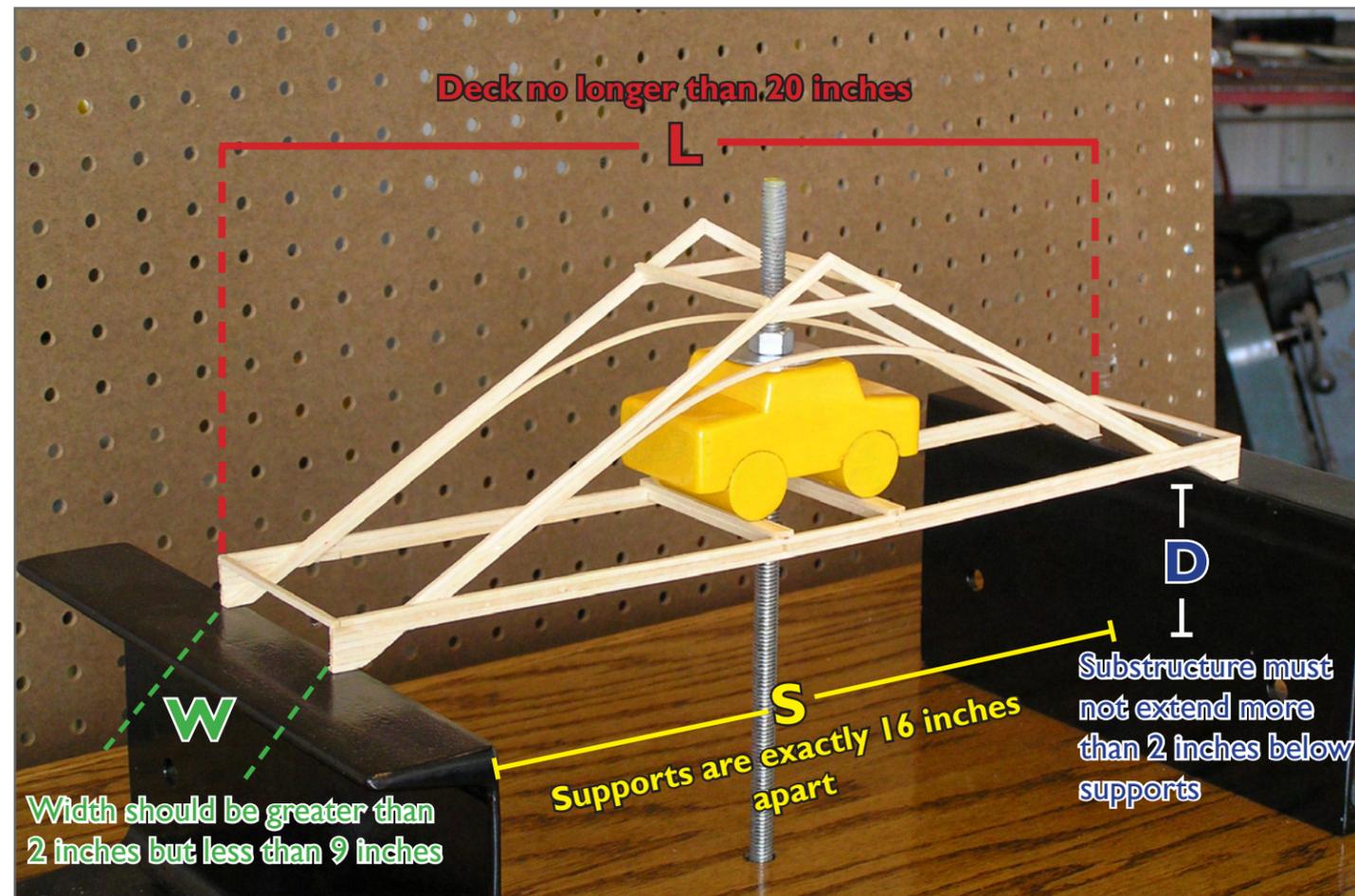
The object of this competition is to design and construct the most efficient bridge within these rules.

All bridges will be thoroughly inspected. Bridges which do not meet the requirements listed in the following rules will be disqualified and participants notified approximately one week prior to the competition. During the competition, if a condition becomes apparent (use of ineligible materials, etc.) which violates any of the competition rules, that bridge will be disqualified.

Decisions of the judges are final. No discussions regarding disqualified bridges will take place at the competition.

1. Students may use only materials provided by MoDOT. Each student will receive an individual bridge kit containing 20 pieces of 1/8-inch square balsa wood, a bottle of glue, and a spool of string. No other materials may be used, and no more may be used than what's provided to each student. The bridge may not be stained, painted, or coated in any fashion with any substance.

2. Length (L) of the bridge should be no longer than 20 inches. The support surfaces are exactly 16 inches apart and cannot be adjusted during the competition. The bridge must span (S) both support surfaces (i.e. greater than 16 inches but less than or equal to 20 inches). Keep in mind, 1) if the supports are 16 inches apart, your deck must be longer than 16 inches to properly rest on the support surfaces and 2) if you construct your bridge with substructure (i.e. structure below the support surfaces), the substructure must be less than 16 inches to fit within the 16-inch span.

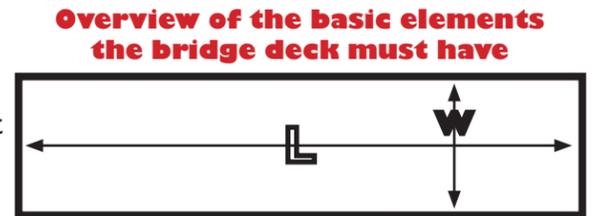


3. Width (W) should be wide enough to place the loading car on the bridge so that no part of the car touches the bridge other than the wheels, but less than 9 inches.

4. The bridge substructure should extend no lower than 2 inches below the support surfaces. (D)

5. The bridge must be constructed with a minimum 1-inch square opening centered on the bridge at mid-span, to allow the loading rod to pass vertically through the bridge and all the way through the top.

6. The bridge must have a deck. The deck should 1) be rectangular in shape (At least one longitudinal member on each side and at least one cross member on each end.), 2) be supported at each end, 3) run the entire length of the structure, 4) be constructed of wood, and 5) support the loading car.



At least one longitudinal member on each side and at least one cross member on each end.

7. A solid deck surface is not required, but the loading car must be able to pass the bridge from end to end along the deck.

8. Loading points on the bridge should be located 1-inch on each side of the center of the bridge and **no greater than 2 inches above the support surfaces.** If any portion of the loading car, except the wheels, makes contact with the bridge, it will be disqualified.

9. The load will be applied to the threaded rod from below, as depicted in the photo. The bridge must support a minimum load of 7 pounds (3.2 kg).

10. Loading will continue until bridge failure. Bridge failure is defined as the inability of the bridge to carry additional load or a load deflection of 1-inch under the loading location, whichever occurs first.

11. A maximum load of 80 lbs. (36.3 kg) will be used to evaluate efficiency. For bridges supporting a load greater than 80 lbs, the additional load above 80 lbs. will not be included in the efficiency calculation.

12. The bridge with the highest structural efficiency, E, will be declared the winner. $E = \text{Load} / \text{Weight}$

