

**Jackson State University
Mathematics/Engineering Fair
2008 Bridge Design and Construction Competition**

Entry forms must be received by March 5, 2008:

The completed bridge will be inspected and checked in at JSU the day of the fair April 18, 2008.

Dimensions

Overall length of bridge must be between 26" and 30".

Bridge must span 24".

Maximum height of bridge is 5"

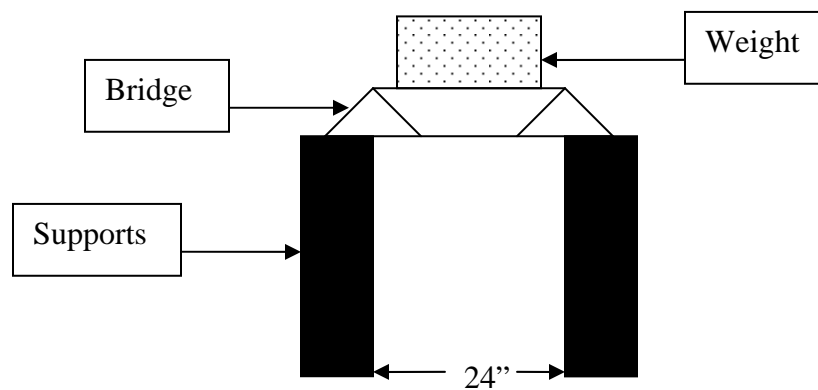
Maximum width of bridge is 8".

Minimum width of bridge is 6".

Each individual Balsa wood beam shall be 1/8" wide by 1/8" thick.

Rules

1. Student groups will consist of 2-5 students.
2. All materials used in the design and construction of the bridge must be Balsa wood, which is available at local hobby stores.
3. Loading will be applied at the center span using a top-loading weight system as seen in the diagram below. (Weight system and supports will be provided)



4. Mechanical fasteners are not allowed.
5. Glue may be placed on the face of the joint being glued and not on the side face. Joints should not be surrounded by glue. Glue may not be spread more than 1/4" beyond the glued joint. Any non-permitted use of glue will be penalized.
6. The bridge may not be painted, coated, laminated or treated in any way.

7. Emergency balsa wood and glue on the day of the fair must be provided by the individual teams.
8. Safety glasses will be provided.

Judging

1. Judging of the bridges will be based on an efficiency factor.
2. The bridge will be weighed and impounded until it is loaded.
3. Teams will have 5-7 minutes for bridge setup and loading (students will self-load bridges).
4. The bridge is considered to have failed if it collapses and cannot support any weight, or the bridge deflects 4” or more from horizontal.
5. The efficiency factor is the applied load divided by the weight of the bridge. The applied load is the load that causes the bridge to fail, or 20kg (44 lbs.), whichever occurs first.
6. The highest efficiency factor will be the winner.

For further questions concerning this competition, contact Dr. Wilbur Walters at wilbur.walters@jsums.edu or (601)-371-3615.

Please mail, fax, or e-mail the following information for each team by **March 5, 2008** to:

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2008 Bridge Design and Construction Competition

School Name:

Team Members:

