



Running School Bridge Contests

Running Your Own School Bridge Contest

- The test setup does not have to be elaborate. The bridge supports can be two flat top tables or desks clamped the required distance apart using C-clamps and boards. For the 1999 rules, where bridges may extend below the support surface, you may want to use pieces of 2×4, 2×6 or 4×8 lumber which are adjustable to provide the bridges with the correct span as well as support along the longitudinal axis of the bridge.
- Most schools will not have a testing machine available, so the simplest method of applying the load is to hang masses from below the bridge.
- A loading device is needed to apply the masses to the bridge. The 40mm square plates need not be 6 mm thick; any metal or even a tough wood or plastic plate will do. Drill the plate at its center to accept a 3/8 inch eyebolt. Move the horizontal plate vertically down onto the loading location on the bridge. Then, from below the bridge, insert the eyebolt up through the plate and secure with a nut from above. Use a hook to hang the load from the eyebolt.
- Slotted lab masses can be loaded on a rod hooked onto the 3/8 inch eyebolt to test the bridges. If your school does not have enough lab masses to break the bridges, a platform consisting of a 2 foot square of 3/4 inch plywood can be suspended from the 3/8 inch eyebolt, below the bridge, with ropes or chains. Bricks or other available masses can then be piled on the platform to break the bridge. Or use a sturdy 5 gallon bucket instead of a platform, etc.
- Since bridges may support more than 25 kg, it is suggested that you limit the distance the mass is allowed to fall when the bridge breaks. A distance of between 1 and 2 inches is recommended. This will assure good relations with classes on the floor below you. It is also a good idea to protect the floor from falling masses with cardboard, wood or carpet.
- The bridge should be weighed and inspected for compliance with required dimensions and materials prior to loading. Dimensional checks can be facilitated using a sheet metal, cardboard or plastic template cut out to the maximum dimensions of the bridge.
- The students should load their own bridges while wearing safety goggles. Many schools publicize their contest and hold it in a room large enough to accommodate spectators. Some schools even hold the contest to coincide with the PTA meeting. This gives the student builders some recognition and introduces students to various aspects of physics.

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[[Bridge Contest Home](#)] [[International Contest](#)] [[Chicago Regional Contest](#)]
[[Region Locator](#)] [[Official Documentation](#)] [[Other Bridge Links](#)]

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