



Northeast Indiana
National E-Week

13TH ANNUAL MIDDLE SCHOOL BRIDGE DESIGN COMPETITION

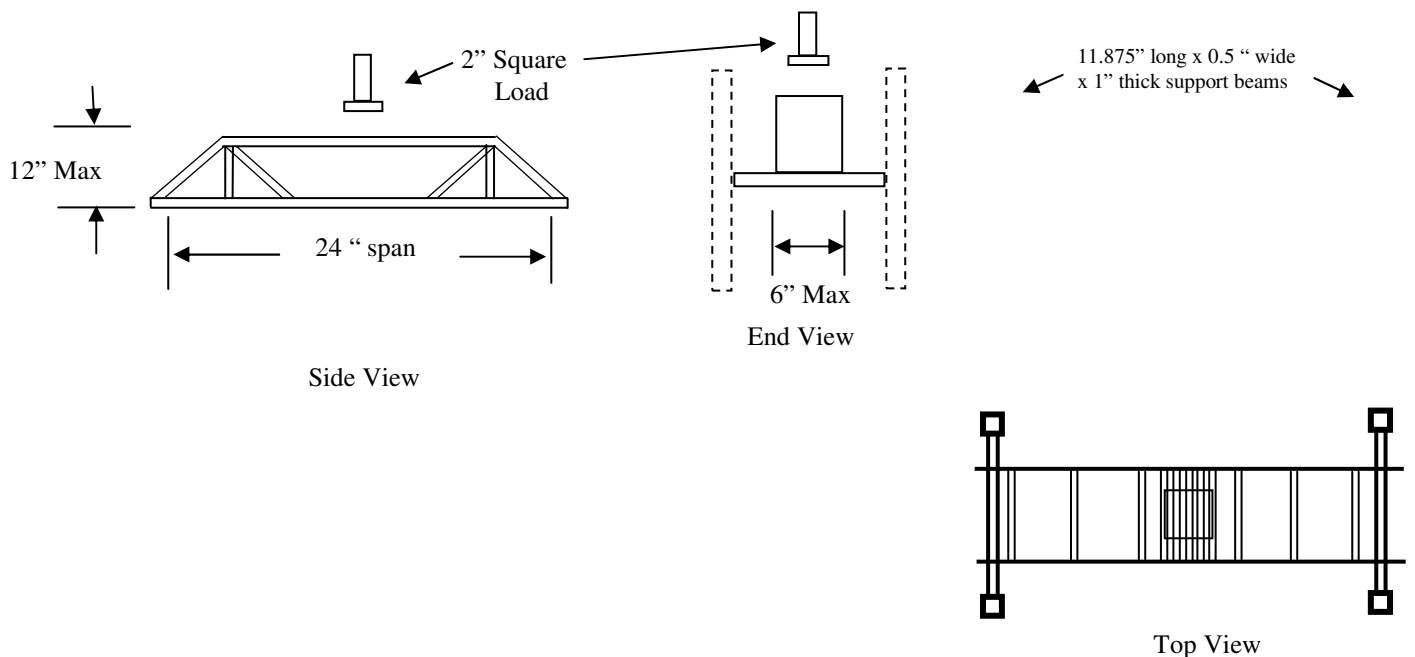
The 2012 Engineer's Week Committee and the Anthony Wayne Chapter of the Indiana Society of Professional Engineers would like to call your attention to the 13th Annual Middle School Bridge Design Competition. During National Engineer's Week, February 19-25, 2012, a student bridge design contest will be sponsored for all area middle school students as outlined on the entry form on the following page. This competition challenges students in the areas of engineering, design, science, and creativity. Prizes will be provided by several professional societies. The competition will be held at Science Central as part of the National Engineer's Week celebration, on February 18, 2012.

Participating students must observe all competition rules. The goal of the Engineer's Week Committee is that all students become more aware of the fun and challenging aspects of the professional and technical world. We believe that the future of our students' education is the responsibility of both community and educators.

A copy of the rules and general information concerning the competition is on the other side of this sheet. Please feel free to make additional copies for your use. If you have technical questions or concerns about judging criteria, please call Rick Slayback at (260) 627-2791. For more information about registration or the facility, please call Jen Motycka at (260) 424-2400, extension 426. Thank you for your time and commitment to education.

Sincerely,

Jen Motycka
Indiana Engineer's Week Committee Member
Science Central



2012 ENGINEER'S WEEK MIDDLE SCHOOL BRIDGE DESIGN COMPETITION

You are invited to participate in the thirteenth annual Middle School Bridge Design Competition. The Engineer's Week Committee, Science Central, and the School of Engineering, Technology, and Computer Science of IPFW sponsor the challenge in conjunction with National Engineer's Week. It is open to all area middle school students. The contest will be held at Science Central in Fort Wayne on Saturday, February 18, 2012. Registration will begin at 10:00 a.m. and the competition will commence at 10:30 a.m. Prizes will be awarded to the top three teams.

First Prize: \$60 check
Second Prize: \$30 check
Third Prize: \$15 check

The object of the competition is to design the lightest possible "bridge" to span a 24" gap with minimal deflection. The bridge will be loaded until it breaks, and the bridge with the highest load to weight to deflection ratio will win the contest (see Item 7 below). The bridge must be within the size limitations listed on this sheet.

COMPETITION RULES

1. Each entry may be an individual *or* team effort. Teams must have no more than three members. Team entries will be required to divide all prizes awarded.
2. Only two materials are allowed in the construction: Elmer's yellow wood glue and wooden popsicle sticks. The maximum number of sticks is 200. Remember, the lightest bridge holding the heaviest load with minimal deflection will win.
3. Bridges cannot be painted or coated with any materials.
4. Each bridge must span a 24" gap during testing. So remember to make it longer than 24" (~26"). The bridge can be no taller than 12" and no wider than 6".
5. The bridge must be open to allow a 3" cube block to pass through the bridge along the deck. A deck only bridge structure can be used, minimum width 3". (structure below the deck). The bridge must have at least 2 parallel trusses.
6. Each bridge must allow a minimum opening of 2" x 2" square at the top to allow the test load to be applied on the deck of the bridge.
7. The test load is to be applied on the deck of the bridge until the bridge fails. The failing load will be determined by when the bridge breaks, the load breaks through the deck of the bridge, the bridge deflects (bends) more than 3" from the horizontal, or until the maximum load is reached. The ratio of the failure load divided by the deflection divided by the weight of the bridge will be used for scoring.

Example: 100 pounds failing load, deflection of .250 inches, and bridge weight of 2 pounds equals a score of 200 points. $100 / (.250 \times 2) = 200$.

Highest point score wins.

~Continued

8. Bridges will be tested on a first come first served basis.

9. Judging will be conducted by a panel established by the Middle School Bridge Design Committee. All decisions are final.

*All entry forms must be mailed to Science Central Bridge Building. Forms are on the preceding page. Entries must be postmarked no later than February 6, 2012. For technical questions, call Rick Slayback at (260) 627-2791. For scheduling concerns, contact Jen Motycka at (260) 424-2400 extension 426.

MIDDLE SCHOOL BRIDGE DESIGN COMPETITION ENTRY FORM

* means required information.

*Team Member Names

*Grade

*Mentor Teacher _____

*Teacher Phone # _____

*School Name _____

*Your Home Phone # _____

*School Address _____

Fax Number _____

*City, State, Zip _____

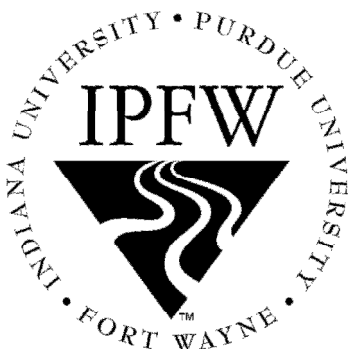
Email Address _____

*County of Residence _____

Due to the sensitive nature of emailing to minors, we would prefer that either the Mentor Teacher or Parent be the email recipient of the student's schedule.

Please mail one copy of this form for each team to the address below. You may duplicate this form. **Entries must be postmarked no later than February 6, 2012. Student participants will be asked to pay a \$3.00 contest admission fee when they arrive on February 18th.**

Science Central Bridge Building
Attn: Jen Motycka
1950 N. Clinton
Fort Wayne, IN 46805



ENGINEERS
Turning Ideas
Into Reality.
National Engineers Week®



Science Central
1950 N. Clinton St.
Fort Wayne, IN 46805-4049
www.sciencecentral.org

Non-Profit Org.
U.S. Postage
PAID
Permit No.
1687



Directions to Science Central

From I-69:

Exit Lima Rd. (exit #111A) and travel south.

You will be on Lima Rd. It will become Northrop St. as you move south toward downtown Fort Wayne. You will pass Glenbrook Commons on your left.

Eventually, Northrop will merge with Clinton and it will become a one-way street that flows into downtown Fort Wayne. Move to the left lane. As the street curves you will pass over State St.

Begin looking for the large brick building on the left with five brightly colored smokestacks. Science Central's electronic sign is on the back of the building. As you pass the building, move into the left turn lane and turn into our parking lot on the south side of the building.

Parking is Free.

