



20th Annual Middle School Bridge Design Competition

The 2019 DiscoverE Committee and the Anthony Wayne Chapter of the Indiana Society of Professional Engineers and Concordia Lutheran High School would like to invite you to participate in the 20th Annual Middle School Bridge Design Competition. In celebration of National Engineer's Week, a student bridge design contest will be held for all area middle school students as outlined on the following page. This competition challenges students in the areas of engineering, design, science, and creativity. Prizes will be provided by DiscoverE Committee. The competition will be held at Concordia Lutheran High School on Saturday, February 16, 2019.

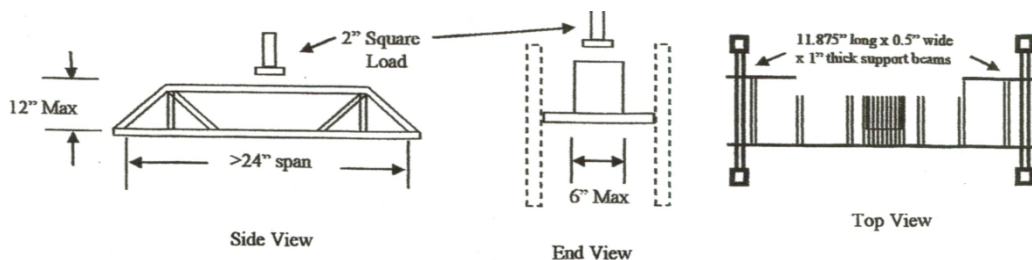
Participating students must observe all competition rules. The goal of the DiscoverE Competition is to expose all students to the fun and challenging aspects of the engineering and technical world. We believe that the future of our students' education is the responsibility of both community and educators.

A copy of the rules and general information concerning the competition is attached. Feel free to make additional copies for your use. If you have any technical questions or concerns about judging criteria, contact Rick Slayback at (260) 627-2791, raslayback@aol.com. For more information about registration or the facility, call Crystal Castleman at (260) 483-1102, ext. 304, at Concordia Lutheran High School or go to: <http://www.CLHSCADETS.com/apps/pages/Bridge-Competition>

Thank you for your time and commitment to education.

Sincerely,

Richard Slayback
DiscoverE Committee Member



2019 Engineer's Week Middle School Bridge Design Competition

You are invited to participate in the Middle School Bridge Design Competition. The DiscoverE Committee and the School of Engineering, Technology, and Computer Science of IPFW, and Concordia Lutheran High School sponsor the challenge as part of National Engineer's Week. It is open to all area middle school students. The contest will be held at Concordia Lutheran High School in Fort Wayne on Saturday, February 16, 2019. On site registration will begin at 9 am, and the competition will start at 9:30 am. Prizes will be awarded to the top three teams.

First Place: \$60 check
Second Place: \$30 check
Third Place: \$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 can't be painted or coated with any materials.
4. Each bridge must span a 24" gap during testing. So 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 (structure below the deck) bridge structure can be used, minimum width 3". The bridge must have a 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. The deck must be able to support the test load application.
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.**
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.
10. Concordia Lutheran High School uses an online registration system. Please copy and paste the following URL into your browser to complete the form: <http://www.clhscadets.com/apps/form/Bridge-Competition> . Registration must be submitted no later than February 13, 2019. For technical questions or concerns about judging criteria, contact Rick Slayback at (260) 627-2791 or raslayback@aol.com. For scheduling concerns, contact Crystal Castleman at (260) 483-1102, ext.304,