

ENGINEERING CHALLENGE

Popsicle-Stick Bridge Building Competition RULES

1. Materials:

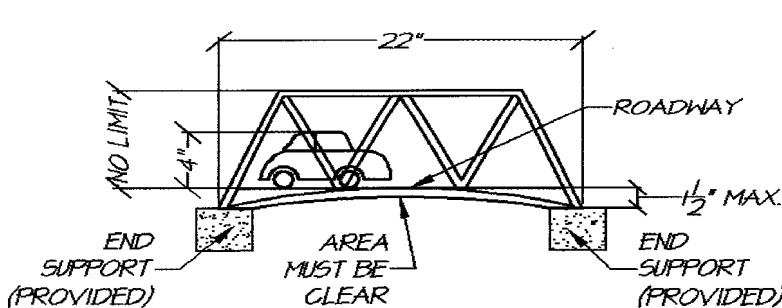
- Popsicle sticks will be provided to each team entering the contest.
- The sticks measure approximately 4-1/2" x 3/8" x 1/12".
- Sticks may be physically altered by cutting, notching, sanding or bending.
- Sticks may not be painted, covered or coated, or soaked in anything except water.
- Only water-soluble white Elmer's glue can be used as an adhesive.

2. Dimensions:

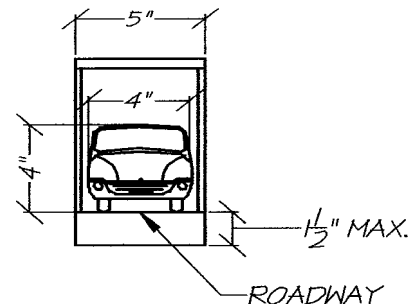
- There is no limit on the height of the bridge.
- No part of the bridge may go below the end supports.
- The width must be less than or equal to 5 inches.
- The bridge must be 22" long.

3. Roadway:

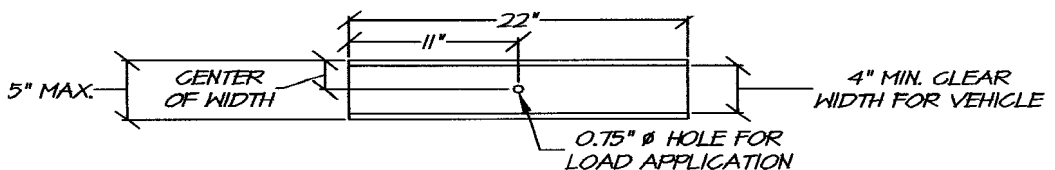
- A 4" high by 4" wide vehicle must be able to pass the entire length of the bridge.
- No part of the roadway can be more than 1-1/2" above the end supports.
- There must be a 3/4" hole in the roadway at the center of the bridge. This is to allow for application of the load.



**FRONT PROFILE VIEW OF
EXAMPLE BRIDGE**



**SIDE PROFILE VIEW OF
EXAMPLE BRIDGE**



PLAN VIEW OF EXAMPLE BRIDGE

Popsicle-Stick Bridge Building Competition - RULES (Continued)

4. Weight:

- The bridge must weigh 250 grams or less.

5. Supports:

- Supports will be provided for the bridge to sit on.

6. Contest Loading:

- A measured vertical load will be applied at the center of the bridge until the bridge breaks.
- The bridge with the highest *Strength Factor* will win.
- *Strength Factor* = Load to break bridge / Bridge weight
- In the event the contestant's bridge does not break under the applied load, the maximum load applied will be used to determine the bridge's *Strength Factor*.
- Decisions of the judges will be final.

7. Contest Format:

- There will be three divisions in the competition: Grades K-5, Grades 6-8 and Grades 9-12.
- Teams will only compete against other teams in their division.
- Students are encouraged to work in teams, but may work individually.
- Each team may have up to four members
- Prizes will be awarded to the winning teams.
- Winning team members will divide their team prize equally.
- At least one member from each team must be present at the competition.
- Contest will be held on February 20, 2010 at the Sequim Boys & Girls Club.
- Registration and weigh-in will begin at 8:00 AM.
- Competition will begin at 9:00 AM.
- No late registrations or weigh-ins will be allowed.

ENGINEERING CHALLENGE

Popsicle-Stick Bridge Building Competition

2010 CONTEST APPLICATION

Please fill out and return this page with your \$2 application fee to your school's teacher representative shown below:

- Sequim Community School - Martha Rudersdorf
Greywolf Elementary School - Carla Morton
Helen Haller Elementary School - Dave Hasenpflug
Sequim Middle School - Joe Landoni/Brian Smelcer
Sequim High School - Isaac Rapalje/Joe Sullivan

Completed applications must be returned by the end of school on December 16, 2009.

Contest will be held on February 20, 2010 at the Sequim Boys & Girls Club. Registration and weigh-in will begin at 8:00 AM. Competition will begin at 9:00 AM. No late registrations or weigh-ins will be allowed.

I hereby agree to all the rules stated herein and also allow my picture to be taken and used by Sequim Education Foundation for non-profit promotional purposes.

Please Print.

Student Name: _____

Home Phone: _____ E-mail: _____ Grade: _____

Teacher: (Science teacher if HS or MS) _____

Parent's Signature: _____ Date: _____

Team Mates: _____

For Engineering Challenge:

School: Community HH GW SMS SHS

\$2 Received _____

T-shirt size: _____