



2012 Mark Twain Engineering Fair and Bridge Crushing Contest

Saturday, January 7, 2012

Cafeteria

10:00 A.M. for Kindergarten and 1st graders

10:45 A.M. for 2nd –and 3rd graders

11:15 for 4th – 6th graders

(Registration closes at noon, so please plan to arrive before then to have your bridge crushed.)

Test out your engineering ideas! Build a bridge out of popsicle sticks and glue, then bring it to the bridge crushing contest. A “crushing machine” will load the bridge until it fails and read out a weight. Your bridge is yours to take home afterwards.

There will be other fun and engaging engineering activities in addition to the bridge testing, like a table of gears and the ever popular cup tower building challenge. You’re welcome to enjoy the fair even if you don’t build a bridge!

Rules

- 120 popsicle sticks per bridge.
- White or wood glue only.
- Bridge length minimums:
 - **Four sticks end to end for grades K – 2nd grades**
 - **Five sticks end to end for 3rd and 4th grades**
 - **Six sticks end to end for 5th & 6th grades.**
- The bridge will be crushed in a testing machine using a 3 inch “foot” on the roadway at mid-span. Please make sure the foot will be able to reach the roadway.
- Only one strand of string per support for suspension bridges .
- Do not glue more than three sticks together per support beam.

Helpful Tips

- Use wax paper, so it doesn’t stay glued to the table or floor!
- Work on parts, wait a couple of hours, then glue the parts together.
- Use small pieces of masking tape to hold parts together until dry.
- A box of 1000 sticks can be bought at craft stores for about \$6.00
- Parents, help your student take step-by-step digital photos of the bridge during construction as a how to and submit it so we can use it to inspire other students!
- Volunteer to man an activity station as a team with your student for a more memorable experience!

Frequently Asked Questions

Q: Can I paint/color the bridges or add decorations to them?

A: Yes!

Q: Can I notch, cut slots, shave down, and drill holes in the sticks?

A: Yes

Q: Can I saturate the members in glue?

A: Yes, white or wood glue only (no polyurethane glues)

Q: Will there be judging this year?

A: Yes, there will be experts there to talk to you about your bridge design.

Q: How do we volunteer?

A: Contact susan.e.swift@gmail.com.

