

THE POPSICLE STICK BRIDGE COMPETITION
at Mohawk College
For Secondary School Students
Tuesday, March 27th, 2018 from 7:00-10:00 PM
<http://popstick.mohawkcollege.ca>

The Civil Engineering faculty of Mohawk College is inviting Secondary School Students to compete in the design of a bridge made of Popsicle Sticks. The competition is open to all Ontario Secondary School students taking a full course load. Out of province contestants will be considered on an individual basis. Only one bridge is permitted per entrant. A contestant may only be entered once in the contest—either as a single member or part of a team.

The bridge will be an under-slung configuration - the deck of the bridge will be the uppermost part, and the supporting structure will be under the deck. The load will be applied at the centre of the top deck by a bar 12 mm wide traversing the bridge. A performance rating for each bridge will be determined by taking the load at failure and dividing it by the mass of the bridge. The bridge with the highest performance rating will be deemed the winner. Thus the overall efficiency of the structure will be the deciding factor. It is up to the designer to select the optimum balance between mass and strength. Should the bridge deflect enough to touch the bottom of the testing jig, failure is deemed to have occurred.

Specifications

- (1) Bridge building kits, consisting of glue and Popsicle sticks, will be delivered by a Mohawk College representative and a promotional presentation will be made to the participating class or students (or will be forwarded by courier if no presentation is made). The **Lepages White Glue** and the **current Popsicle sticks** shall be supplied to students looking to enter the competition.
- (2) The **Lepages Multi Purpose Glue** and the **Popsicle sticks supplied in the bridge kit from Mohawk College, ARE THE ONLY MATERIALS THAT CAN BE USED TO CONSTRUCT THE BRIDGE.** Do not use any materials from previous year's contests. The sticks shall receive no special treatments or coatings. They may be cut or formed into any required shape (i.e. pieces may be used as pins in the joints). Contest organizers have the right to limit the number of Popsicle sticks issued, however, a reasonable amount of waste is assumed.
- (3) The bridge must span the space between the ends of the testing jig, which shall be 500(±1) mm apart. Its overall length must not exceed 550(±1) mm, and its weight may not exceed 250 g. The width of the structure is not to exceed 110 mm. The structure may not project more than 20 mm above or 110 mm below the line of the supports. The load shall be applied to the top of the structure. **The top of the structure at the loading point must be no lower than the top of the supports. (See figure below)**
- (4) Bridges must be received at the Mohawk College Woodshop, Room **A032** on **Thursday, March 22nd, 2018, from 4-8 pm.** Entries submitted after this time **will not be accepted.** Entries will be examined by the judges for conformation to the rules. **Bridges that do not conform to the rules, (i.e. do not fit the test jig) will NOT BE TESTED!** In all cases, the decision of the judges is final. All entries become the property of the contest.

Prizes will be awarded to the top bridges

A copy of your thank you letter to the sponsor must be emailed to Matthew Shelley (matt.shelley@mohawkcollege.ca) by Wednesday, April 4th in order to claim your prize winnings.

In the event of group winners, it is the responsibility of the Team Captain to decide the distribution of the prize(s).

