



BRIDGE BUILDING CHALLENGE RULES

Innovation Station – Engineering Your Life 2025



WHAT IS THE CHALLENGE?

The event involves fabricating a bridge from popsicle sticks and glue only. The bridge will be tested to failure at the Professional Engineers Ontario, Windsor-Essex Chapter Innovation Station – Engineering Your Life 2025 event (ISEYL).

ISEYL 2025

Bridge Building Competitions will be held:

Saturday, October 18, 2025 from 10am to 12:30pm and 1pm to 3:30pm; 4:30pm awards

(Check-in **only** from 10:00 to 10:30am **and** 1:00 to 1:30pm for the two different sessions)

At the Devonshire Mall – in The Bay Court

(3100 Howard Ave, Windsor, ON; in front of the Hudson's Bay store)

Contact Sean McCann, P.Eng. (spmccann13@hotmail.com) for any rules concerns

WHO MAY ENTER?

Any student or group of students, who think they can build a popsicle stick bridge. Contestants will be distributed into the following categories:

- Kindergarten to Grade 3
- Grades 4 to 6
- Grades 7 to 8
- Grades 9 to 12

REGISTRATION:

If you want to enter your bridge into the competition, please register online through Eventbrite at:

<https://www.eventbrite.ca/e/peo-windsor-essex-chapter-innovation-station-engineering-your-life-2025-tickets-1454624594319?aff=oddtcreator>

Online Registration Deadline: October 4, 2025 will be the last date to enter the competition. Beyond this date, please review the PEO Chapter website for the updates on any potential deadline extensions at (click "Events"):

<https://www.peo.on.ca/chapters/windsor-essex>

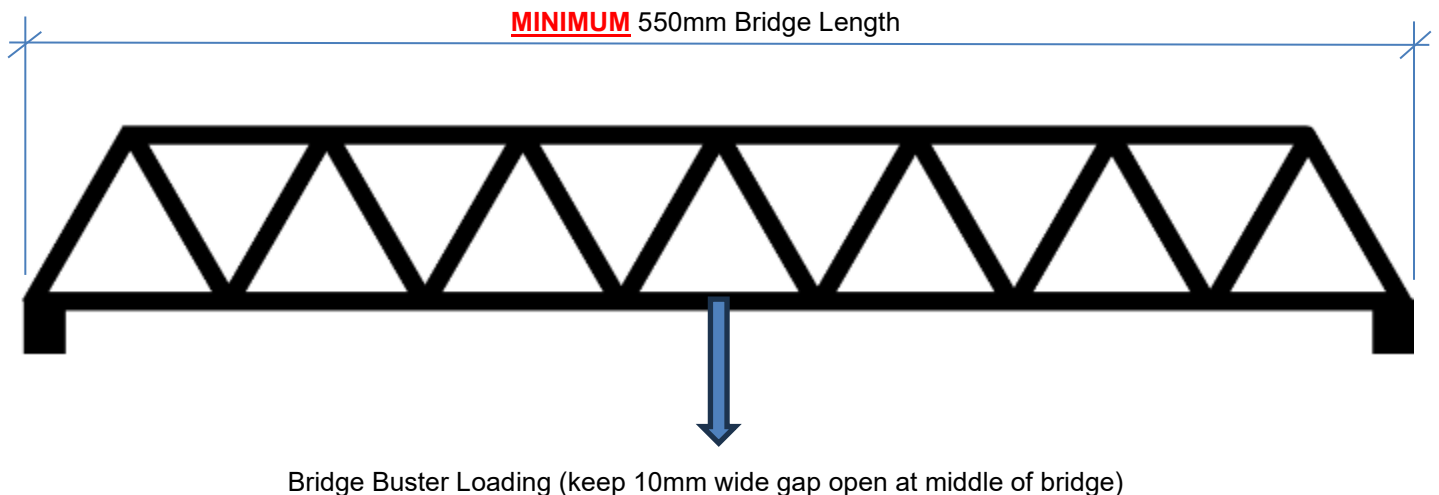
BUILDING MATERIALS:

- Only standard craft popsicle sticks (114mm x 10mm x 1.5mm) will be accepted
- Adhesives will only include white wood glue (such as Elmer's Craft Wood Glue) **or** hot glue gun (**NOTE: Bridges will be inspected for glue type, so no "Gorilla Glue" please**)
- No other glues, wood types, additional materials or fasteners are allowed



CONSTRUCTION SPECIFICATIONS:

- Bridge Length: Bridge must be long enough to span over the Bridge Buster supports. Therefore, make it a bit longer (**at least 550mm long, please**), so it sits on top of the supports.
- Bridge Width: 100mm minimum; 115mm maximum
- Bridge Height: 90mm minimum; no maximum height limit
- Bridge Weight: **200 grams maximum** (i.e., 150 standard size popsicle sticks are probably too heavy)
- Bridge design must be such that the lower portion of the bridge does not extend more than 50mm below the deck
- Popsicle sticks CANNOT be cut or broken in any way. You must use the entire stick.
- Be creative! Bridges can be constructed in many different ways.
- HINT: Leave an approximate 10mm wide gap at midspan for the Bridge Buster clamps to load your bridge



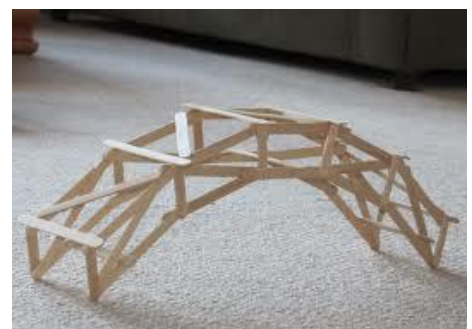
JUDGING AND TESTING:

- Bridge ends will be placed on the two Bridge Buster abutment supports (clear span)
- Bridges will be loaded at midspan with a loading device finger below the bridge
- Incremental loading will be applied until ultimate bridge failure
- All bridges WILL be destroyed during testing!
- Bridges will be judged based on the highest ratio of:

$$\frac{\text{Load Carry Capacity (total load before breaking)}}{\text{Bridge Weight}}$$

THE COMPETITION

- **Weigh-In:** All bridge entries will be weighed during the competition (**NOTE: Weigh your bridge at home before arriving, to ensure it is less than 200g**)
- **Disqualification:** Bridges will be examined by the PEO judging team before loading. Any bridges made from materials that are not permitted, will be disqualified.
- **Testing:** Our PEO judging team will load all bridges using an electric loading system
- **End of Test:** All tests will end in destruction!!! No bridges will survive!
- **Judges' decisions are final: That's that!!!**



LIST OF LOCAL EXAMPLE STORES WHICH MAY POTENTIALLY SELL POPSICLE STICKS

DISCLAIMER NOTE: The Windsor-Essex Chapter of Professional Engineers Ontario and its volunteers in no way are promoting any of these stores, but rather lists them as suggestions when considering where to potentially source supplies for the competition. It is up to the individual competitors to find a reliable supplier that sells materials meeting the specifications listed above.

- Home Hardware (multiple locations)
- Michaels (multiple locations)
- Staples (multiple locations)
- Walmart (multiple locations)
- Windsor Hobbies Limited (3895 Tecumseh Rd E)
- Many other local hobby/craft/hardware stores may also carry the specified construction materials

LIST OF ONLINE EXAMPLE STORES WHICH MAY POTENTIALLY SELL POPSICLE STICKS

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- Amazon
- eBay
- Factory Direct Craft
- Hobbyworld Arts & Crafts Inc.
- J&J Crafts
- Temu
- Many other online hobby/craft/hardware stores may also carry the specified construction materials