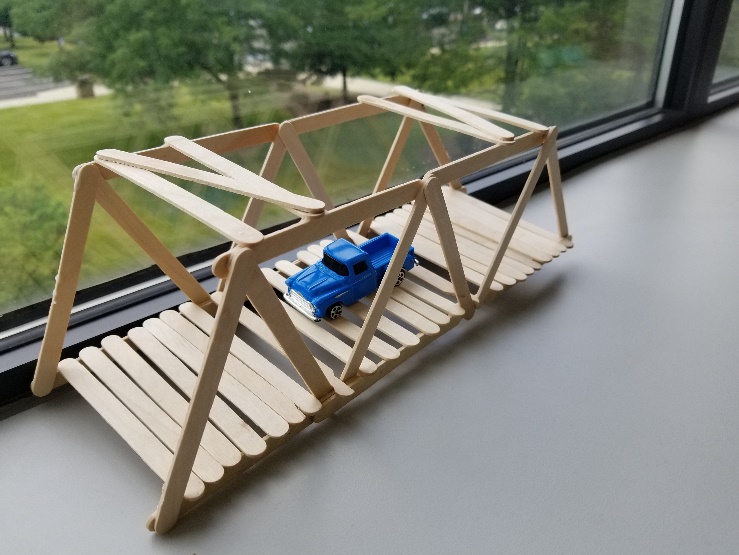


**Popsicle Stick Bridge Challenge**

**9-12**

**Activity #3**

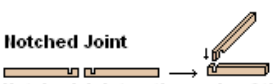
# **Objective**

To use math and science to implement engineering concepts in the design and construction of a model bridge from your own plans that will carry a maximum load with only the materials provided; and, to develop neatness, craftsmanship and creativity.

# **Materials**

* 150 Popsicle Sticks
* Elmer’s Glue
* Scissors (Not Included)

# **Construction Specifications**

1. Length must be between 13 inches and 16 inches
2. Width must be between 4 inches and 6 inches
3. Maximum height is 6 inches
4. Elmer’s glue must be used at the joints only. No coatings of any kind including paint, cement, epoxy, etc. may be applied to any surface of the bridge. Bridge will be disqualified if it is coated with any substance. Markers and pencils are acceptable.
5. Bridge must have a clear and open roadway, running the full length of the bridge, as if automobile traffic were going to cross it.
6. Please allow for a 2 x 4 opening in the top of the bridge to insert the testing fixture onto main platform of the bridge. This opening can be about the size of a hot wheel’s car.
7. At least 50% of each popsicle stick needs to be open to air.
8. Joints can be constructed using any method **except for** notching and pinning.



# **Competition**

Your bridge will be tested amongst the other students in your age group. Before submitting your bridge, please fill out the form that is stapled to this activity sheet.

**Please have your parent/grandparent/sibling return your bridge and form to Emerson’s cafeteria on Friday, August 14 between 7:00am-9:00am. With any questions please contact Brian Luttmer (**[**Brian.Luttmer@Emerson.com**](mailto:Brian.Luttmer@Emerson.com)**) or Ben Bowers (**[**Benjamin.Bowers@Emerson.com**](mailto:Benjamin.Bowers@Emerson.com)**).**

There will be a live WebEx on August 18 and August 19 for students to watch the bridges be tested. All live recordings will be posted to SharePoint for students to watch at a later time if they cannot attend the WebEx.

**\*\*The top three students whose bridge can bear the most weight will win a prize\*\***