



Bridge Teams

Students can participate individually or in teams - the maximum being 3 students per team.

Prize Structure for Provincial Bridge Competition

In each chapter (Eastern, Central, Western, Labrador) there will be the following prizes awarded:

- 1st Place - \$100 & NEGM T-Shirt
- 2nd Place - \$75 & NEGM T-Shirt
- 3rd Place - \$50 & NEGM T-Shirt



Provincially the following awards will be made to the top three entries. Please note that for any winning team entries, the award will be split equally between the team members.

- 1st Place (provincial) - \$100 & NEGM T-Shirt
- 2nd Place (provincial) - \$75 & NEGM T-Shirt
- 3rd Place (provincial) - \$50 & NEGM T-Shirt

In addition to the individual Provincial awards, the schools sponsoring the winning bridges will receive awards as follows:

- 1st Place School (provincial) - \$500 & Plaque for school
- 2nd Place School (provincial) - \$200 & Plaque for school
- 3rd Place School (provincial) - \$100 & Plaque for school



Note: For the Provincial prizes, all entries province wide will compete against each other.

NATIONAL ENGINEERING AND GEOSCIENCE MONTH

A team may be in the top 3 in the chapter, but may not place in the top 3 in the province.

GENERAL RULES AND REGULATIONS

MATERIALS

The ONLY materials that can be used to construct the bridge are:

1. Wooden popsicle sticks
2. White school glue.



NO Paint or Contact cement...your bridge will be disqualified

DIMENSIONS

1. The bridge must be a minimum length of **70 cm**
2. The total height of the bridge cannot exceed **25 cm**.
3. The total outside width of the bridge cannot exceed **15 cm** and cannot be less than **6 cm**.
4. The bridge must have a minimum opening in the top (not the bridge deck), **6 cm (width) by 12 cm (length)** is adequate to permit a testing apparatus to be applied to the center of the bridge deck.
5. The bridge deck must be flat and continuous to allow a test vehicle to pass.

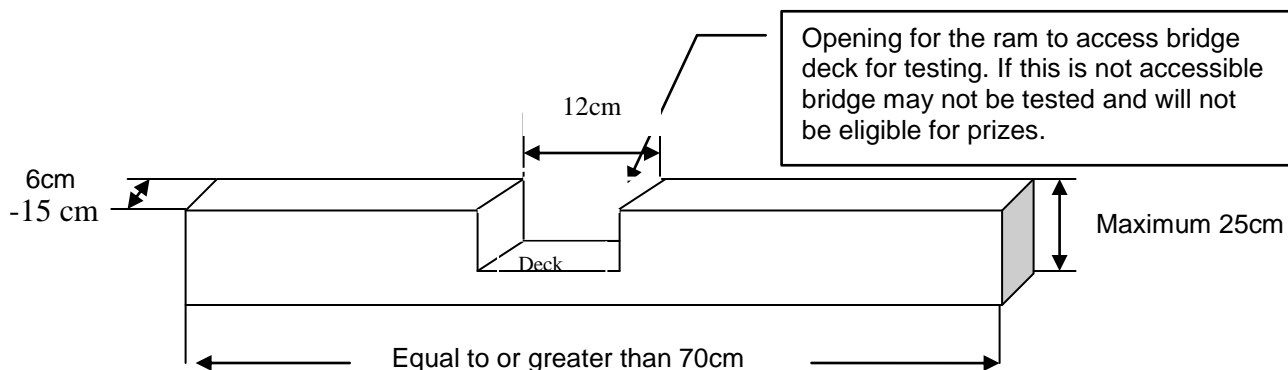
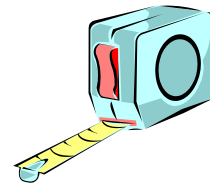
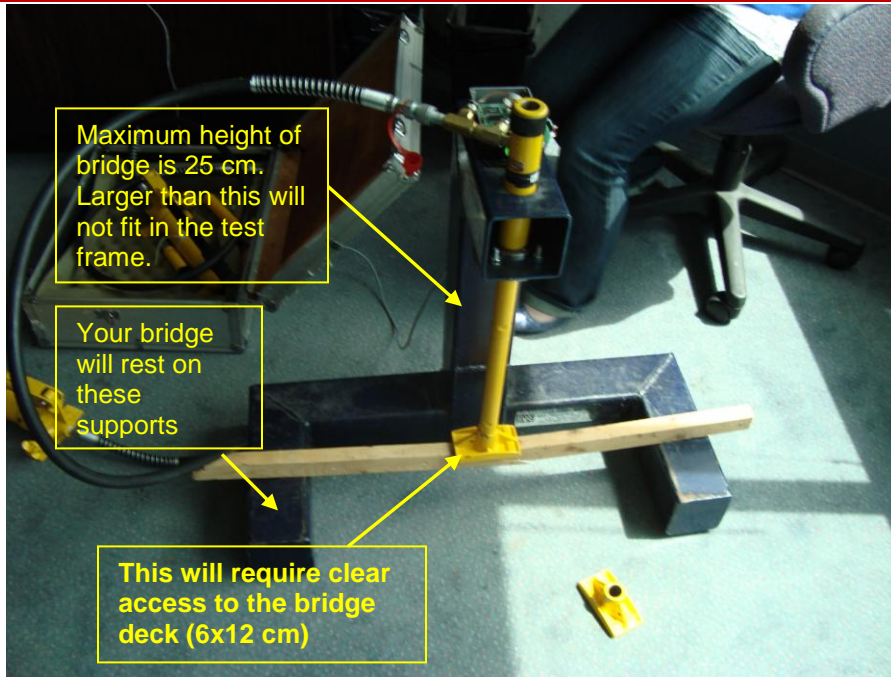
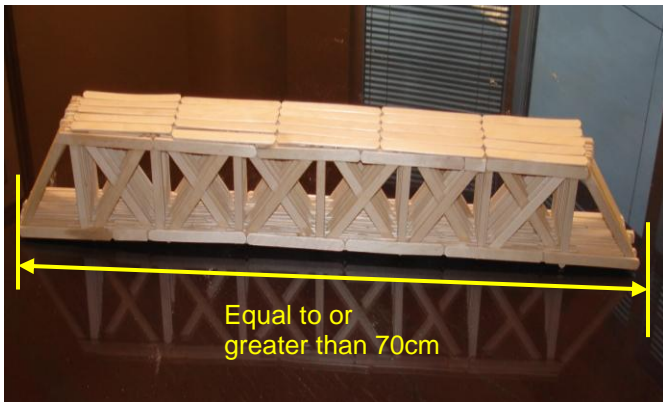


Diagram 1: Required dimensions of bridge

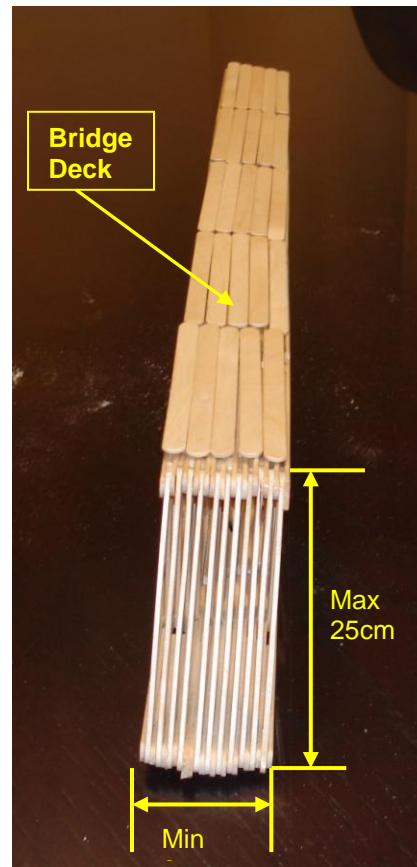


ALL bridges will be tested at a clear span of 60 cm (the distance between the two supports) with the testing apparatus applied to the center of the bridge

Photo: Bride Test Frame



Required dimensions of bridge



BRIDGE EVALUATION

1. QUALITY OF CONSTRUCTION: JUDGES EVALUATION 20%

Joint Work - Are joints clean, tapered, cut, show good transition of members	5%
Dimensions - Does bridge appear uniform and symmetrical?	5%
Test Vehicle - Does the test vehicle pass freely along the bridge span?	5%
Overall Aesthetics/Creativity	5%

2. APPLICATION OF ENGINEERING PRINCIPLES: JUDGES EVALUATION 10%

Weight Considerations - Show minimization of weight at non-critical points?	5%
Use of Truss Work - Does the bridge utilize truss development effectively?	5%

3. STRENGTH FACTOR 70%:

The **Strength Factor** will be computed by the following formula:

$$\text{Strength Factor} = \frac{\text{Maximum load}}{\text{Mass of Bridge}}$$

A minimum weight of 100 grams will be assigned to each bridge.

The Maximum Load will be evaluated by testing the bridge to failure. Failure is defined as:

1. The point at which the load starts to decrease on the display. The maximum load is read from the testing apparatus, or
2. The bridge has reached a maximum deflection of 10cm, or
3. The bridge catastrophically fails.