



## Bridge Building Challenge 2012

### OFFICIAL RULES

#### Participants:

1. Grade 7 and 8 students from Mississauga schools, 100 Teams maximum.
2. Participants may enter individually or as a Team (up to 2 students max).
3. All members of a team must be signed up when bridge kits are picked up.

#### Construction:

1. Each contestant/team will receive a "challenge kit".
2. The bridge must be built with a maximum of 100 Popsicle sticks.
3. Only the glue provided must be used (White School Glue). **Other glues, including carpenter's glue are NOT acceptable.**
4. The construction paper provided may only be used as the bridge deck.
5. A matchbox car must be able to roll across the bridge deck.
6. The bridge must span a 500 mm gap. See schematic diagram below.
7. Popsicle sticks must be left whole.
8. The bridge must allow a 13mm diameter rod to be installed up through the deck of the bridge for testing.
9. The deck of the bridge must accept a 120mm x 55mm x 30mm (L x W x Thickness) plate to attach the rod. This is required to weigh to the structure.
10. The bottom surface of the bridge must be substantially flat at the support ends with no intentional protrusions which will interfere with placement on the test platform as shown in the diagram below.
11. Bridges will be inspected by the judges at the registration. Any violations of the rules outlined above will result in disqualification.
12. Bridges will be displayed on tables for photos.

#### Testing the Bridge:

1. Bridges will be tested based on a first-come first-serve basis.
2. Bridges will be weighed before being tested (Max weight is 250 grams) If your bridge weighs more than 250 grams, your team will be penalized.
3. Once weighed, all bridges will be displayed on tables pending testing.
4. The bridge will be loaded on the bottom with loading plate. The load will be increased until bridge fails. A bridge that deflects more than 50mm will be deemed to have failed.
5. The strength will be divided by the weight of the bridge to determine the strength to mass ratio. The bridge with the highest strength to mass ratio will be the winner.
6. All contestants and officials within the loading/testing area must wear protective eyewear (provided).
7. Assess if the matchbox car be able to roll across the bridge deck
8. All bridges will be destroyed during testing and disposed afterward.

