



Bridge Building Challenge 2014 - 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 registered in order to receive a bridge kit.
4. A team may only submit one bridge for the challenge.
5. A participant is not allowed to be a member of more than one team.

Construction:

1. Each contestant/team will receive a "challenge kit" containing the supplies needed to build the bridge.
2. The bridge must be built with a maximum of 100 Popsicle sticks. The kit comes with 5 extra sticks in the event that some sticks are bent or have a flaw of some type. A penalty of 2% will be applied to the teams final score for each popsicle stick over 100 that is used in their bridge. For example, if your final score is 80% but you used 5 extra popsicle sticks, your final score will be reduce to 70%.
3. Only the glue provided must be used (White School Glue). **Other glues, including carpenter's glue are NOT acceptable.**
4. The bridge must span a 500 mm gap. See schematic diagram below. THIS IS IMPORTANT otherwise we will not be able to test your bridge.
5. Popsicle sticks must be left whole (they may not be altered or modified in any way)
6. The bridge must allow a 10 mm diameter rod to be installed up through the deck of the bridge for testing.
7. The deck of the bridge must accept a 120 mm x 55 mm x 30 mm (L x W x Thickness) plate to attach the rod. This is required in order to load the bridge for destructive testing.
8. 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.
9. Bridges will be inspected by the judges at the registration. Any violations of the rules outlined above may result in disqualification.
10. Bridges will be displayed on tables for photos.

Testing the Bridge:

1. Bridges will be tested based on a first-come first-serve basis starting at 8:30 am.
2. The mass of each bridge will be measure before being tested (Max mass is 260 grams or 0.573 lbs). Note that the entire bag of contents of the bridge building kit has a mass of about 280 grams or 0.617 lbs). A penalty of 1% will be applied to the teams final score for every 5 grams over the maximum allowed mass.
3. Each bridge will be loaded on the deck with a loading plate. The load will be increased until the bridge fails. A bridge that deflects more than 150 mm will be deemed to have failed.
4. The maximum load will be divided by the mass of the bridge to determine the strength to mass ratio. The goal is to have the highest strength to mass ratio however this only accounts for 40% of your total score.
5. All contestants and officials within the loading/testing area must wear protective eyewear (provided).
6. Remember that all bridges will be destroyed during testing.

