

Yet another Great Popsicle Stick Bridge Building Competition

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March 6th, 2010 – Scarborough Civic Centre Council chambers was filled with 51 teams of school children from Scarborough area in the grades 3 to 8, with their parents and teachers showing their talent in designing and constructing a strong structure to resemble a bridge to a set of specifications given to them and show how strong the structure was. All inclusive there were over 250 people in the auditorium.

National Engineering Month is a nationwide festival of events from February 27 to March 7, 2010 to raise public awareness on Engineering and Technology and to encourage young talents to take up careers in these fields.

Professional Engineers Ontario is a partner to this festive week and the Scarborough Chapter conducted its seventh consecutive Popsicle Stick Bridge Building Competition (BBC) for school children to promote engineering and technology to young minds who could become designers of our future infrastructure like roads, bridges, buildings etc.

The competition basically is to design and build a bridge structure with Popsicle sticks and white glue as per the given dimensional and weight criteria. The idea is to cultivate the young brains in visualizing something and create it in real terms. Teachers and parents also participate by guiding the children to put their creative ideas into reality.

The creations of these young talents are put to a series of tests by experienced structural engineers. They examine the bridges for conformity to given specification, thus their capability to understand specifications are evaluated. The children have to explain their design concepts - like why a certain part of the bridge was designed in such a manner, how different parts of the bridge contribute to its strength etc. Each of these and their presentation – such as visual appearance of the bridge, their verbal presentation are evaluated and points are given. Prizes are awarded to those teams scoring highest scores in these evaluations as Judges Awards.

Then the bridge is kept on a testing rig where a central load is applied till the bridge fails and the load to fail is registered by an electronic load measuring device. The load at failure is translated to a performance index (Performance Index = load/mass of bridge). The bridge with the highest performance index gets the award for performance.



Bridge under test



Failure Analysis by Expert Engineers

After that, bridge specialist engineers study the failed bridge and explain the causes for failure and how to make it stronger while meeting the weight criteria thus encouraging them to come back with better bridge at the next event.

In fact, over the years we have seen the same team of children coming back and building stronger bridges.

This year's event saw 51 bridges of varied design and the strongest bridge withstood 1490 Newtons while weighing only 259 grams.

Apart from the prizes to children, special prizes were also awarded to the teachers based on the number of teams they coached and the performance of their children.

The star attraction of this event was asking the teams to come to the podium and give a feedback and number of teams came forward and aired their views.

The distinguished personalities at this 7th bridge building contest were Hon. Jim Karygiannis, MP (Scarborough – Agincourt); Hon. Derek Lee, MP (Scarborough – Rouge River); Stephen Lawrence, P.Eng., Manager, Ontario Power Generation; John Conforzi, P.Eng, Plant Manager, StrataFLEX Inc. apart from the PEO guests.



The Hon MP's mingled with the children and witnessed the testing of bridges standing beside them.