



Grover Cleveland High School

April 2010

Dominick Scarola, Principal

Good News Bridge Builders 2010 GCHS students sweep the competition

On Saturday, April 10, the Regional Bridge Building Competition was held at John Bowne High School. For the second straight year, Grover Cleveland High School's Science Research Club swept Grover Cleveland to a first place victory. Of 45 entries from Brooklyn, Queens, and Staten Island 16 were from Grover Cleveland. Grover Cleveland took 1st, 2nd, 3rd, 5th, and 8th, among others.

The Bridge Building Competition involves constructing a bridge from basswood sticks to be as light as possible yet support as much weight as possible. A pail is hung from the bridge and loaded with sand and weights until the bridge either breaks or deflects by more than 15 millimeters. To qualify for competition, the bridge must be built to strict length, width, and height parameters. If the bridge is found not to qualify, the student has some time to fix it to comply with the specifications.

The specifications were especially challenging this year for the following reasons:

1. The bridges were required to be elevated in the middle with legs on the sides.
2. There had to be openings in the bridge at the center and 60 millimeters to the right and left of the center to allow the load to be hung. The exact loading point is picked at random the day of the contest.
3. The interior of the bridge has to fit the 4 cm x 4 cm block.
4. There had to be a clearance area under the bridge such that a 60 mm x 160 mm block can be passed under the bridge, and the loading plane cannot be more than 80 mm high.

The bridges are ranked by their Efficiency, which is the load supported by the bridge in grams, divided by the mass of the bridge in grams. The more mass the bridge holds, or the lighter the bridge is, the higher the efficiency. In many cases, an efficiency of over 1000 is considered competitive.

In a nail biter competition, Derlis' bridge weighed in at 29.2 grams and held 82.7 pounds before breaking. Alvaro's bridge was also 29.2 grams but held 82.9 lbs to clinch the 2010 title. Each region of the country sends its top two finishers to the International Bridge Building Competition, which is held in Philadelphia this year on May 1. Derlis Gutierrez and Alvaro Nunez will represent the Brooklyn, Queens, and Staten Island region in Philadelphia. Derlis Gutierrez is a two time regional winner and also competed in Bellingham, Washington last year. The top ten winners at the Internationals receive prizes, and the 1st place winner there receives a half tuition scholarship to the Illinois Institute of Technology (who runs the entire competition). 2010 Bridge Building Specifications:

http://bridgecontest.phys.iit.edu/public/international/2010/international_rules



The Grover Cleveland Bridge Building Team: Top (l to r) Yuri Pullutasig, Alvaro Nunez, Derlis Gutierrez, Basem Bebawy, Lloyd Kiefer (Coach), Dina Gutierrez, Geline Canayon, Kelvin Cardenas, Tenzin Pema, Shaima Chowdhury, Julissa Perez. Bottom (l to r): Krishna Mahabir (Assistant Coach), Ledwin Restituyo, Nestor Barrera, Steven Torres, Euxhin Lama, Esteban Flores. Not pictured: Dumitri Grigorean, Audris Wong



John Bowne Bridge Contest Supervisor Felicia Bifulco with 1st Place winner Alvaro Nunez



John Bowne Bridge Contest Supervisor Felicia Bifulco with 2nd Place winner Derlis Gutierrez



Cleveland student Geline Canayon sets up the testing apparatus.