



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> <b>Julio A. Medina</b>	<b>Project Number</b> <b>J0219</b>
<b>Project Title</b> <b>How to Build a Better Bridge</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of this project was to find out how vertical or horizontal reinforcements affect a bridge's ability to hold weight. I am interested in engineering and this project could help me in later life if I need to build something strong. <b>Methods/Materials</b> I started by researching different bridges to find out how other people built their bridges and how to build mine. I used truss bridges for this experiment. One bridge I tested had horizontal reinforcements, one had vertical reinforcements and the last had nothing. The bridges were built as similarly as possible to reduce the variables. I hung weights off of the bridges and weighed the weights to see how strong the bridge was. <b>Results</b> At the end of this experiment, I concluded that the bridge with horizontal reinforcements held the most weight (95 lbs) compared to the control (57 lbs) and the bridge with vertical reinforcements (55 lbs). <b>Conclusions/Discussion</b> The bridge with horizontal reinforcements held the most weight because it spread the weight evenly. The control bridge had its weight concentrated at the bottom joints. The vertical bridge had all of the weight concentrated at one point and was pulling apart at another point. Also The vertical bridge was very brittle while the control was extremely flexible and the horizontal bridge was in between	
<b>Summary Statement</b> This project finds out how vertical and horizontal reinforcements affect a bridge and why.	
<b>Help Received</b> Mother criticized report.	