



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Joshua J. Van Benschoten</b>	<b>Project Number</b> <b>J0226</b>
<b>Project Title</b> <b>Friction Dampers: Putting the Brakes on Earthquakes</b>	
<b>Objectives/Goals</b> Every year major earthquakes around the world damage buildings, cause severe injuries, and death. Damaged buildings can be dangerous to enter after an earthquake. Families may have to move and businesses may need to relocate. Protecting buildings from earthquake damage saves lives, homes and businesses.  The intent of this experiment is to show how much a friction damper reduces the side-to-side motion (sway) of a building due to strong ground motion. I intend to show that frictions dampers significantly reduce building damage by reducing sway and possibly saving lives.	
<b>Abstract</b>	
<b>Methods/Materials</b> I plan to show how friction dampers work by simulating an earthquake on a building by using a shaker table. One building will have dampers and the other will not. I will take a video and measure the sway of the building with and without friction dampers and compare the results.	
<b>Results</b> Friction Dampers significantly reduced building sway.	
<b>Conclusions/Discussion</b> My original hypothesis was correct because the friction dampers reduced the sway of the building by 75%! Reducing the sway of a building reduces the likelihood that the building will be damaged or collapse in a strong earthquake. Also, reducing the sway protects people in the building and their belongings.	
<b>Summary Statement</b> Show how friction dampers reduce building sway in earthquakes	
<b>Help Received</b> Father helped with making shaker table and was a resource in making the research report	