



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

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Project Title Safe in a Quake	
Abstract Objectives/Goals This project tests what height and type of base is best for a building in an earthquake prone area. This project is important for the safety of people who live near a fault. Hopefully this project will be taken into notice by engineers and put into use. Methods/Materials Plaster of Paris, Water, Ruler, Pins, Cardboard, Measuring cup, Spoon, Wooden blocks, Bucket, Masking tape, Duct tape, Nails, Metal washers, Rubber washers, Metal wire, Smooth panel board, Sharpie, Jigsaw, Earthquack shake table, Switchblade. Results There are mixed results of this experiment. According to the graphs, the five story isolated buildings withstood longer than the fixed base five story buildings. The shorter buildings sway with the motion of the earthquakes and have less damage. The ten story fixed base withstood the sideways shaking better than the isolated ten story buildings. However, the isolated ten story buildings were stronger than the fixed base ten story buildings in up and down shaking. Overall, the safest building was the five story isolated building. Conclusions/Discussion The findings of this experiment, disagrees with the hypothesis. The hypothesis was that the taller buildings would withstand the shaking longer. Based upon the results, it was the opposite. The taller buildings were heavy and could not withstand the shaking as the shorter buildings. Shorter buildings are safer to be in during an earthquake than taller buildings. Overall, people should live in shorter, isolated buildings because it is the safest to be in all kinds of earthquakes.	
Summary Statement What is the safest height and base for a building to withstand an earthquake?	
Help Received Mother helped build building models.	