



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Janet M.S. Liu	Project Number J1413
Project Title The Center of Gravity	
Abstract Objectives/Goals To define which crucial triangle point (incenter, centroid, orthocenter, circumcenter) is also the triangle's center of balance or gravity. Methods/Materials I tested my theories with a scalene triangle, and plotted the four crucial triangle points necessary for my experiment by means of geometric construction methods. I tested my point which seemed to best balance the triangle by performing a balance test, then did the test again on paper versions of all four triangles. Results The crucial triangle point, the centroid, is the center of gravity for all four types of triangles. Conclusions/Discussion After I pondered my conclusion further, I was also able to better validate the conclusion mathematically and logically, not to mention the physical test I performed in this experiment. I believe I am fully convinced that the centroid is indeed the triangle's center of balance. If I had to redo this experiment, I would also attempt to test and make certain the fact that the other three triangle points do not balance any of the other types of triangles.	
Summary Statement My project is about validating the triangle's centroid as its center of gravity.	
Help Received Father helped prepare heavy cardboard for project	