



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Lam L. Nguyen	Project Number J0219
Project Title Launch It!	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I was wondering what the effect of variance in settings on the range of a trebuchet was. I believed that a ratio of 1-4 on the arm would produce the best ranges. I also thought that the greater the counterweight, the more the range. The ratio is between the end of the arm with the counterweight and the end of the arm with the sling.</p> <p>Methods/Materials The materials I used were the trebuchet, a logbook, pennies, marbles, a book, a tape measure, a pen, and rubber bands. The procedure I used was to first prepare the trebuchet, launch the projectile, measure the distance, record the distance, then repeat 4 more times. Then I would change settings and repeat.</p> <p>Results The ratio of 1-4 was higher than 1-7 or 4-11. The trajectory of 4-11 was a relatively straight line slanting downwards, but the trajectory of the 1-7 was an upward bell curve.</p> <p>Conclusions/Discussion The 1-7 produced the most consistent data, but the 4-11 was random. My hypothesis was mostly proven, because the ratio of 1-4 was the highest range, and also because the counterweight had a positive correlation with the range.</p>	
Summary Statement My project is an investigation on how a variance of settings can affect the range of a trebuchet.	
Help Received Dad helped count pennies, helped build trebuchet; Teacher(Mark Hobbs) helped on binder.	