



CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s) Maya Lee Pollack	Project Number 31289
Project Title Which Is Faster, "Rocker Start" or "Track Start?" Comparing Two Approaches to Softball Base Stealing	
Objectives/Goals My objective was to see if the "rocker start" was faster than the "track start" for stealing bases in softball. Because the "rocker start" allows you to gain momentum before you actually leave the base, my hypothesis is that the "rocker start" will be the faster stance. The "rocker start" enables you to break inertia before you leave the base, so you will gain greater velocity in a shorter amount of time.	Abstract Methods/Materials Materials: 7 softball players, an electronic timing system, 2 bases, and a tape measure. Method: 1. Identify 7 softball players, ages 12 - 14. 2. Set up timing equipment at CSUMB softball field at 60 feet. 3. Line up girls at first base. 4. Two base running styles will be used when running from first to second, the "track start" and the "rocker start." 5. Three trials of each condition will be conducted in a randomized manner with ~ 3 minutes of rest between trials. 6. Set up timing equipment at 15 feet. 7. Line up girls at first base. 8. Two base running styles will be used when running the 15ft., the "track start" and the "rocker start." 9. Three trials of each condition will be conducted in a randomized manner with ~ 3 minutes of rest between trials. 10. Download data from timing system to computer. 11. Calculate the means and differences for each athlete, using the two starts at the two different distances. 12. Compare the means to determine if there is a significant difference.
Results The tests showed that my hypothesis was correct. The "rocker start" was faster than the "track start," at both 60ft and 15ft. The difference between the means was about the same at both 60ft (.0914/sec) and 15ft (.0729/sec). This shows that the difference is really a result of the explosive start.	
Conclusions/Discussion The results are even more interesting because the players were not trained in the "rocker start." During the testing, the players commented that the rocker start felt uncomfortable and that they didn't like it. The players felt more comfortable with the track start because it was familiar to them. During the testing, I noticed that the players did not rock back as much as they could have. So, they did not get as much momentum as possible. Even with the players not rocking back as much as they could have, the rocker start was still significantly faster. With more practice on the "rocker start," players could gain as much as .25/sec over the "track start."	
Summary Statement To see whether the "rocker start" in softball was truly more "explosive" and allowed for a faster start when stealing a base in softball.	
Help Received My mentor was Dr. Kent Adams, Professor of Kinesiology at California State University Monterey Bay. He helped me set up and operate the electronic timing system. The idea was inspired by the women's softball coach at CSUMB, Coach Andrea Kenney.	