



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Austin J. Hiatt	Project Number J0211
Project Title Determining the Fastest Gear Set-Up on a Single Speed BMX Bike Around a Designated Course	
Abstract Objectives/Goals The objective of my project is to determine what gear set-up will be the fastest around a 1,176 foot race track. I will be using six different gear set-ups with two crank arm lengths. Each set-up will be tested ten times. Methods/Materials In my project, I used a 2003 customized Cheetah race bike, a stop watch and a measuring wheel. After each gear set-up was tested, I regained my energy by resting so that each test was as accurate as possible. Results The results of my project were that a 40:14/160 gear set-up with an average time of 43.03 seconds was the fastest time. The slowest gear however, was a 42:15/165 with an average time of 46.05 seconds. Conclusions/Discussion My conclusion is that a 40:14/160 was the fastest gear set-up by almost one second. This information should help me in the future of my career as a BMX racer. Example: 40 (pedal gear):14 (rear gear)/160 (crank arm length)	
Summary Statement My project is about testing different gear set-ups to see which one was the fastest.	
Help Received I used the BMX track in Tulare, Ca run and operated by Ron Jones. My parents helped me with the testing (timing and dropping the starting gate). My Dad helped my with the graph on the computer and the project design.	