



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Ricky M. Yacko, Jr.	Project Number J0234
Project Title Which Golf Ball Goes the Farthest?	
Abstract Objectives/Goals My project was to determine the distances that different brands of golf balls travel when hit with equal force, and whether any major differences can be explained. My hypothesis was that for a group of similar golf balls (two piece, durable cover), the more expensive the ball, the greater the distance it would travel. Methods/Materials A consistent ball-hitting device was designed and built, tested, and modified for the project. The controls were a stable base, a "stopper rod" to ensure equal force on each hit, and a tee to ensure consistent height of each ball. Three balls of four different brands were hit twenty times each with the device, for a total of 240 trials. The balls were hit onto a sand volleyball court and the distance measured from the tee to the rear of the ball mark in the sand for each trial. Results The distances traveled were from 224 cm. to 261.5 cm., a range of 37.5 cm. The Brand D ball had the smallest range at just 20 cm. Brand C had the widest range at 32.5 cm. The longest hit was Brand C, the shortest was Brand A. The cost of the balls was from \$16.95 to \$24.95 per dozen, with Brands C and D being the least expensive. Conclusions/Discussion According to my data and observations, my hypothesis is incorrect. The distance each ball traveled did not increase with a higher cost, and I did not identify any reason for the differences. Number of dimples and cover thickness were not consistent with distance, possibly due to the short distances hit. I learned from this experiment that higher cost does not guarantee greater distance. I also learned that the Brand D (Nike) was the most consistent ball, so it is the ball I will choose in the future for my short game (chipping, putting, etc.).	
Summary Statement My project was to determine which brand of similar golf balls would go the farthest when hit with an equal force, and whether cost was relative to any differences.	
Help Received Uncle welded device to my design and assisted with modifications; Mother showed me how to use Word to set up and automatically update a Table of Contents in my report; Dr. Shevinsky and Mrs. Hamilton reviewed my research and encouraged me to improve the detail.	