



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> Collin McNicholl-Carter	<b>Project Number</b> <b>J2218</b>
<b>Project Title</b> <b>The Effect of the "Crank-Neck" on Golf Putter Accuracy</b>	
<b>Abstract</b> <b>Objectives/Goals</b> To compare the accuracy of golf putters with different size hosels. The hypothesis of this project is that the putter with the larger crank-neck will provide more accuracy than the putter without the crank-neck. <b>Methods/Materials</b> Select blade golf putter clubs with and without crank-necks. Interview golf professionals. Build a putter testing apparatus using PVC pipe adding a rotating bar to accommodate 3 different test clubs so that the putters swing consistently with the same back swing and the same force. Make a bulls-eye target to measure accuracy to hole. Test each club 50 times, with identical back swing, measure the results of the distance ball travels and the distance to the bulls-eye target-hole. Calculate average distance and accuracy to the hole for each club. <b>Results</b> I tested and compared 3 different blade putters with different size crank-necks on their hosels. The hosel is the part of the club that connects the shaft to the head. After testing and averaging the test calculations I discovered that club #B# produced the most accurate results after testing. Club #B# was 28% more accurate than club #A#, and was 16% more accurate than club #C#. Club B with the 1.65 medium size crank-neck was the most accurate. <b>Conclusions/Discussion</b> The resulted conclusion showed that putter B, the club with the 1.65 centimeter off-set crank-neck was the most accurate. This putter produced the ball to lye an average of 8 centimeters away from the bulls-eye. Club B was found to be 28% more accurate than club A and 16% more accurate than club C. How a golfer stands over the ball makes a difference in which putter they would select to purchase. Some golfers hold the putter on a slant out in front of them. It seems club C is best suited for this type of golfer. It allows the head of the club to be behind the ball with an off-set. Club A is more of a straight neck hosel therefore best for golfers that stand over the ball, looking directly down onto the top of the ball. The putting apparatus does not allow the club to be slanted. It was designed to securely hold each club horizontally in the straightest position possible. The apparatus did not account for these various ways a golfer would hold a club. When golfers buy putters, its about personal preference and how the putters feels in the golfers hands during his swing. After this experiment I realized that the bigger crank-neck putters do not ensure more accuracy.	
<b>Summary Statement</b> To compare the accuracy of golf putters with different size hosels	
<b>Help Received</b> My science teacher Gretchen Taylor was my mentor and my school is Our Lady of Grace	