CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J0220

Project Title
Golf Physics: How Will the Distance a Golf Ball Flies be Affected by the Weight of the Club Hitting It?

Abstract

Objectives/Goals
Since I enjoy playing golf, my objective was to determine how the distance a golf ball flies would be affected by changing the weight of the golf club hitting it.

Methods/Materials
To have a consistent swinging arm or golf club, my Dad & I designed and built "The Swinger". This is a large 4 foot swinging arm that allows an identical, repeatable swing every time. With a can on the end to hold different weights, I could easily change weights while keeping the swing consistent. I marked with nails where the golf balls landed & measured the distance. I used the same ball the entire experiment and hit it 5 times, averaging the distances, before changing the weight.

Results
The distance the balls flew varied with the different weights, but not necessarily as I expected. None of the balls flew as far as I guessed they would with increased weight. In fact, changing the weight of the club had very little affect on the balls flight.

Conclusions/Discussion
Based on my research prior to conducting the experiment, I thought a golf ball hit with twice the weight would fly approximately 20% further(about 30 inches). My hypothesis was not correct, as the balls all flew within 6 inches of eachother. I now know using a heavier club won't help my golf game.

Summary Statement
How will the distance a golf ball flies be affected by the weight of the club hitting it?

Help Received
My Dad helped plan & build the swinging arm; my grandfather, who loves golf, shared his advice about wedges.