CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
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Project Number
J0124

Project Title
Does Elevation Affect Distance?

Abstract

Objectives/Goals
The purpose of this experiment was to see how different elevations will affect the distance of a thrown ball.

Methods/Materials
I went to three different elevations. I set up a pitching machine and launched three trials of five balls, making a total of fifteen balls thrown. I put place markers where the balls landed and recorded the distance. I made sure that at each location the pitching machine was set up exactly the same to make sure the machine pitched the balls at the same angle and the same speed. I used a radar gun to verify that the balls were thrown at the same speed.

Results
The balls thrown at the higher elevations consistently went the farthest, and at the lowest elevation the ball went the shortest distance.

Conclusions/Discussion
My conclusion is that higher elevations do make balls travel farther distances. This is because higher elevations have less air pressure, and thinner air helps make a ball travel farther. At lower elevations the air is thicker, and this thicker air actually works against the ball and pushes on it making the ball go slower.

Summary Statement
This project was conducted to determine if a ball thrown at different elevations will affect the distance it travels.

Help Received
My father drove to the different elevations and helped set up the pitching machine.