CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
Haley A. Yolken

Project Number
22152

Project Title
How Does Acceleration Affect Force?

Abstract

Objectives/Goals
My objective is to learn about Newtons second law of physics and how acceleration affects force. I belive that the more acceleration the object requires, the more force it will produce.

Methods/Materials
I used the indentations of my 2 hands in clay, which was in a 14" x 14" box, and compared the depth of my indentations of 6 differant moves to the depths of my control group. The moves where seperated into 3 grops, Slow, Medium and fast acceleration, which i then used to find the approximate force andt aceleration on my hands during the move, so i could draw some conclutions as to how acceleration affects force.

Results
I found that the more acceleration the object requires, the more force it will produce by comparing the depths of the clay and the approximate amounts of force. The slow moves only produced a little bit of force, only added about 2-10 lbs. to the weight on my hands while the fast moves had more force, added about 40-60lbs. to my hands while doing my moves. By studying these results, i drew the conclution that the more acceleration you have the more force.

Conclusions/Discussion
I was correct on thinking that the more acceleration you have the more force you have, in my hypothesis. Doing this science fair project taught me a lot about Physics,. since i have never explored the concept of physics before, and i learned about how newtons second law of physics really can be applied to reall life.

Summary Statement
I am testing Newtons second law of physics to find how acceleraion affects force.

Help Received
Parents helped with supplys, physics teacher at the high school and gymnastics coach helped with ideas.