CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
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Project Number
J0224

Project Title
Effect of Surface on Speed

Abstract

Objectives/Goals
Do different surfaces affect how long it takes a model car to cross a certain distance?

Methods/Materials
Accelerate a model car down a ramp made of wood covered with styrofoam, and different grit sandpaper (120 grit, 50 grit, and 80 grit). I used sanding belt machine sandpaper because it was long enough that I did not have to make any joints along the length of the ramp. Measure the time it takes the car to go down the incline and compare. I did ten trials for each surface to allow for experimental variation.

Results
The model car went fastest down the surfaces with the least amount of friction and went slowest down the surfaces that had the most amount of friction.

Conclusions/Discussion
I found that the order of surfaces from shortest time to longest time was bare wood, Styrofoam, 120 grit sandpaper, 80 grit sandpaper, and 50 grit sandpaper. Basically the rougher the surface, the longer it took the model car to cover the distance. These results support my hypothesis and are similar to my expectations. I was able to hypothesize correctly based on my observations that when I am on a smoother surface I can ride my bike faster.

Summary Statement
My project is about how different surfaces affect how fast you can go on them.

Help Received
My parents helped obtain materials for the experiment and helped build the project. Mrs. Brooks, my science teacher, gave me overall direction.