CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
Ryan C. Segervall

Project Number
J0129

Project Title
The Amazing Hovercraft

Abstract

Objectives/Goals
The objective of my project was to build a hovercraft, to determine if different surfaces affect how much weight it will hold and how well it will hover, and to have fun.

Methods/Materials
Materials:
Plywood, leaf blower, vinyl, 2" PVC pipe, bicycle tire, lawn chair, screws, bolts, and clamps.

Method:
1. Build hovercraft according to the instructions in the "Ultra Simple Hovercraft" document
2. Test to see if it works
3. Test on each of the 6 surfaces by putting weights on it until it wouldn#t hover. I defined hover as "if you push it, it will move easily".

Results
The hovercraft held more weight on the hardwood floor than any other surface. It held 731 pounds compared to 596 lbs on cement, 553 lbs on hard sand, 503.5 lbs on asphalt, 173 lbs on soft sand, and 86 lbs on grass. It lifted 731 pounds on the hardwood floor by creating a calculated 0.5 lbs/in^2 of pressure. It lifted the most on hardwood floors because it created the best seal and less air leaked out the sides creating more lift.

Conclusions/Discussion
My conclusion supported my hypothesis that the hovercraft would work best on the smoother surface (hardwood floor). It really surprised me on how much it could lift. This study showed me that hovercrafts are fun but not very useful because they can only do well on certain surfaces and they are really noisy and use a lot of gas.

Summary Statement
My project is about building a hovercraft and understanding how well it works on different surfaces.

Help Received
My Dad helped me get materials, helped me put weights on the hovercraft during testing, and he also sat on it so I could have more weight on it.