CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
David P. Shelton

Project Number
J0135

Project Title
Invention and Trial of an Air-Propelled Car

Abstract

Objectives/Goals
My project was to determine whether my air-propelled car would have the highest velocity and acceleration using a 4 inch 3 bladed propeller, a 6-inch 2 bladed propeller, or a 4-inch 2 bladed propeller. I think the three bladed propeller will have the highest velocity and acceleration, the 6-inch 2-blade propeller will be next, and the 4-inch 2-blade propeller will have the least velocity and acceleration.

Methods/Materials
I constructed a car that was propelled by a model airplane propeller that was run by an electric motor. I then ran the car on a straight 26 foot course, starting from a standstill, and measured the time it took it to get to the various points using different propellers. I ran the different propellers over the course 5 times, sometimes more if there was a "no time" on one of the trials, and used the average times to calculate the velocity and acceleration at each point.

Results
The 3-blade propeller was the fastest and had the most acceleration, the 4-inch 2 bladed propeller was slowest and had the least acceleration, and the 6-inch 2 bladed propeller was in the middle. There was very little difference between the 3-blade and the long 2-blade propellers, but there was a lot of difference between those two and the short 2-blade.

Conclusions/Discussion
My conclusion is that the three bladed propeller and the long two bladed propeller performed the best and were very close in speed and acceleration and the short two bladed propeller was far behind.

Summary Statement
I compared velocity and acceleration of my air car using different propllers.

Help Received
Mother typed most of the report from my dictation, helped with the layout, and helped with the stopwatch timing. Dad did the work that required power tools.