



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Tommy Elliott; Peter Ferrari; John Walsh	Project Number J0108
Project Title Does Shape Matter?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our objective is to see how the shape of a car can affect how fast it will go. Our hypothesis is that the shape of the cars will make a difference in how fast they go. This is because a car with a more aerodynamic shape should go faster. The more aerodynamic the shape, the less the car will stall from the air as it moves.</p> <p>Methods/Materials We made three different car bodies (Car A, Car B, and Car C) with different shapes and tested them on a race track and in a wind tunnel. We alternated the car bodies with a standard car base in order to have a controlled experiment. We timed each car on the same track and with the same car base. We put each car body in the wind tunnel and sucked dry ice over the bodies with a shop-vac. We recorded and took pictures of the results. Some of the equipment we used was as follows: 1 track, 3 cars, 1 wind tunnel, dried ice, shop vac, and hot water.</p> <p>Results The results of the first test are as follows: Car A average time was 4.38 seconds (track was 12.19 meters long/5 races). Car B average time was 4.39 seconds (track was 12.9 meters /5 races), and Car C average time was 4.54 seconds (track was 12.19 meters long / 5 races). The results of test two are that we visually saw the wind going more smoothly over Car A than Car C and Car B was somewhere in between.</p> <p>Conclusions/Discussion Our conclusion proved that our hypothesis was correct. Car A was the fastest and most aerodynamic. Car C was the slowest and least aerodynamic. The shape of the cars is the determining factor on how fast they would go in a controlled experiment.</p>	
Summary Statement Our project is about aerodynamics and how the shape of a car's body will affect it's speed.	
Help Received Mr. Walsh (John's dad) supervised the building, racing, and testing of the cars. Mrs. Tamasso (Science Teacher) reviewed and directed progress of project.	