



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Andy C. Leong	Project Number J0224
Project Title Roller Coaster Madness	
Abstract Objectives/Goals My project was to determine which modification to a roller coaster car would make it travel the fastest: make it aerodynamic, heavy or neither. Methods/Materials One car was constructed. This car was able to become modified by adding 30 grams of weight and a foam "lid". By only building one car, I eliminated almost all possible variables, because all the cars were riding on the same wheels. The body of the car was built out of 1 cm thick foam poster board and the wheels and axels out of Legos. The ramps I tested it on (I had two: an incline and a decline) were constructed out of slot car tracks. Results The car with added weight averaged out to be much faster than the other two cars, while the car with no modifications consistently had the slowest times and the aerodynamic car reached times than the "no-modification" car. Conclusions/Discussion My conclusion is that the shape of a car makes a difference in its speed, but not as much as its weight. The ideal roller coaster car would be aerodynamic AND heavy.	
Summary Statement The effect of air resistance and weight on roller coaster cars.	
Help Received Friend helped release car in trial runs.	