



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Teresa H. Netro	Project Number J0118
Project Title Do Dimples Make the Difference?	
Objectives/Goals This project applies the dimples on a golf ball to a car for better mileage. This idea comes from two different types of wind flows, laminar for a smooth surface, and turbulent for a rough/ dimpled surface. For a spherical golf ball, the turbulent flow helps it conserve energy, making it fly farther. My question is can this effect apply to a car, or in this case a non-spherical shape.	
Abstract To test this I first used an irregular shape (water bottle) to test if the dimpled surface would conserve more energy than a smooth one on a non-spherical shape. The bottles were hung and tested on a pendulum structure to ensure air resistance was the major variable.	
Methods/Materials To test this I first used an irregular shape (water bottle) to test if the dimpled surface would conserve more energy than a smooth one on a non-spherical shape. The bottles were hung and tested on a pendulum structure to ensure air resistance was the major variable.	
Results I found that the dimples did in fact have an impact on the bottle's energy lost. When doing the multiple swing tests the dimpled bottle lost less height than the smooth, and when doing the one-swing tests to convert energy lost, the bottle had a lower energy lost percentage.	
Conclusions/Discussion I have concluded that turbulent flow transfers to irregular objects for more efficiency, and therefore would apply to a car.	
Summary Statement My project is a step along the way to applying the dimples on a golf ball to a car for better mileage.	
Help Received Grandfather helped take data	