Name(s)	Project Number
Lara R. Kenney	**J0116**

Project Title

How Airfoil Design Affects Lift

Abstract

Objectives/Goals
   To see how airfoil design affects lift.

Methods/Materials
   To design a seires of 10 wings out of foam and test them in a home made wind tunnel to determine which wing went up the highest in centimeters when the fan in the wind tunel was turned on. each wing had the highest point of the wing one centimeter further back than it was on the wing before it, beginning with the highest point at the front of the wing, and ending with the highest poin at the back of the 10 centimeter wing. Each wing was two centimeters high at its highest point.

Results
   The wings that had the highest point one centimeter back and two centimeters back both had an average lift distance of 8.5 centimeters.

Conclusions/Discussion
   After doing three trials and calculating the average, I came to the conclusion that my hypothesis was wrong. I thought that wing number three would be the most effective because it looked like it would, but wings one and two tied for being the best out of them all. This is because the rest of the wings had either too abrupt of a slope on the front of the wing, or not enough. The front of wing zero was a total right angle, so it was obviously too abrupt to bend the air. On wings three, four, and five, the front of the wing was apparently too flat. On wings six thru ten, the slope was backwards, being the exact opposite of wings zero through four. This goes to show that it makes sense that wings one and two were the most effective over the others, because they are both a balance between having the slope too abrupt, and too smooth. It also makes sense, because if you look at wings one and two, they greatly resemble they shape of the wings on a commercial jet.

Summary Statement
   My project was designed to determine if the shape of a wing affects lift.

Help Received
   parents helped with wind tunnel, teacher helped with wings, mom helped with recoding data.