



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> Jymette J. Meyer	<b>Project Number</b>  22373
<b>Project Title</b> Lift, Applied: Optimizing the Lift of a Glider	
<b>Abstract</b> <b>Objectives/Goals</b> The objective is to find the lifting capacity of a certain airfoil within the testing conditions of a self-constructed wind tunnel. With the results obtained a flying machine will be designed and fabricated. <b>Methods/Materials</b> A wind tunnel was built of lightweight materials, using the general design principles from my 2001 science fair project. From the results of last year's project, a certain airfoil shape was selected and its lifting capacity was measured using the wind tunnel. The data was applied to the design of the glider. <b>Results</b> Due to measurement difficulties (excessive friction on the guide wires for the airfoil), the angle of attack that was chosen for the wings of the glider resulted in an excess of lift from the forward wing. Adjustments were made to lessen the angle of attack of the forward wing, resulting in successful flight. Modifications to the lift measurement mechanism are in progress, and will be displayed at the State Science Fair. <b>Conclusions/Discussion</b> This project shows that it is practical to use test data to build a functioning machine, in this case, a glider.	
<b>Summary Statement</b> In a continuing project, test data was gathered, then utilized to design a successful flying machine.	
<b>Help Received</b> Father helped in design of wind tunnel, the using of power tools, and explaining procedure. Mother helped in gathering resources, proof reading, and presentation.	