



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Carleen S. Henry	Science Fair Use Only
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Which Angle of Attack Generates Most Lift?	J0913
	Division J Junior (6-8) J Senior (9-12)
Preferred Category (See page 5 for descriptions.) 14 - Physics & Astronomy	
Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges. Objective: To see which angle of attack generates the most lift? 10 degrees, 20 degrees, 30 degrees, or 40 degrees? Method: First I built four different size airfoils. I attached each airfoil to a fixture that I built, which had the ability to hold the airfoil up in different degrees. I attached the fixture onto a metric scale. I glued thick construction paper around the circumference of a fan. This created a wind tunnel. I set the metric scale and fixture in front of the wind tunnel. I set the airfoils in the degrees I wanted then turned on the fan. The degree that created the most lift from the metric scale was the angle of attack that generated the most lift. Each airfoil went through the same process. The average from the four airfoils was the angle of attack that generated the most lift. Result: The angle of attack that generates most lift is 30 degrees. Conclusion: The metric scale showed that at the angle of 30 degrees it produced the most lift. It was the degree in which the airfoil lifted up from the metric scale the most. In other words it weighed less when the wind tunnel was on.	
Summary Statement (In one sentence, state what your project is about.) My project is used to find out which angle of attack generates the most lift.	
Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Father helped cut the balsawood	