



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Matthew Wong	Project Number J0133
Project Title Looking for Lift!	
Abstract Objectives/Goals The objective of my project was to see if more wing curvature generated more lift. Methods/Materials Four airfoils (wings) were designed and constructed, each with differing heights of 0 cm, 2.0 cm, 3.5 cm, and 5.0 cm. The 0 cm wing had no curvature. As the heights increased, the amount of wing curvature was also increased, with the 5.0 cm wing having the most curvature. A 10 in. desk fan facing the leading edge of each wing was used as a wind source. Each wing was tested at least three times, and the amount of lift generated was measured and recorded. Results The wing with the most curvature (5.0 cm) did not lift the highest of all the wings, but it was the most stable. This wing also took longer to achieve consistent lift and had the smallest angle of attack. The wing with the least amount of curvature (0 cm) lifted the highest, yet was the most unstable and turbulent. Conclusions/Discussion My conclusion is that more wing curvature increases stability but not lift. Some factors that may have affected the outcome: Weight of each airfoil, wing shape and dimension, type of materials used, and wind and weather conditions (experiments were conducted outdoors).	
Summary Statement My project was to determine if more wing curvature increases the amount of lift generated.	
Help Received Attendance at Hiller Aviation (San Carlos, CA) summer aviation camps over the last three summers helped me gain a deeper understanding of aviation and inspired me to investigate further into some ideas I had. Mother helped purchase the desk fan, cut/slice some materials, and anchor desk fan to the display.	