



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> Kevin K. Kuramura	<b>Project Number</b> <b>S0104</b>
<b>Project Title</b> Airplane Maneuverability	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective was to learn about what makes an airplane maneuverable.</p> <p><b>Methods/Materials</b> I used paper airplanes with rudders and elevons. I threw them multiple times with different rudder and elevon positions to see what effect each has on the flight path.</p> <p><b>Results</b> My results indicate that when the rudder is bent to the left, the plane turns to the left, and vice versa. It also shows that both elevons bent up make the plane's nose rise, and vice versa. When one elevon is bent up and the other is bent down, the airplane rolls.</p> <p><b>Conclusions/Discussion</b> In conclusion, the rudder and elevons make an airplane maneuverable. The rudder controls yaw (side to side movement), and the elevons control pitch (up and down movement) and roll.</p>	
<b>Summary Statement</b> My project is about learning what an airplane uses to maneuver.	
<b>Help Received</b> Mother took pictures and bought board;	