



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Brian W. Peterson</b>	<b>Project Number</b> <b>J0118</b>
<b>Project Title</b> <b>Surf's Up</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My project was to determine if the amount of surfboard rocker affects a surfboard's speed in the water. I believe that increasing the rocker will decrease a surfboard's speed. <b>Methods/Materials</b> Three different 1/6 scale model surfboards were designed out of balsa wood, each with its own specific amount of rocker. A tank was constructed that would circulate water at a constant velocity. Each board was tested five times with four different amounts of weight to simulate a surfer. Each weighted board was tested at three different velocities of water. The speed of the water in the tank was changed by lowering or raising the water level. <b>Results</b> The board with the most rocker had the largest amount of drag, making it the slowest. The fastest board was the one with the smallest rocker and the least amount of drag. Adding weight caused the board's drag to increase, and so did increasing the water velocity. <b>Conclusions/Discussion</b> My conclusion is that a board with little of no rocker will be faster than a board with greater rocker. Also, the heavier the person standing on the board, the slower the board will be traveling.	
<b>Summary Statement</b> The amount of rocker on a surfboard greatly affects the speed of the board when in motion.	
<b>Help Received</b> Teacher helped check my work to see if it was understandable. Dad helped with recorging data on prepared graphs as I conducted the experiment.	