



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Kurt A. Miller</b>	<b>Project Number</b> <b>S0214</b>
<b>Project Title</b> <b>Surf Wax Friction</b>	
<b>Objectives/Goals</b> A problem that most surfers have is what surf wax they should use and which wax performs the best. In acknowledging this problem, I decided to test multiple waxes to determine which one performs the best under different conditions. I decided that I should test Sex Wax, Terra Wax, and Sticky Bumps as these surf waxes are the most popular in San Diego. The wax that performs the best should enable the surfer to perform sharp maneuvers on the board's side without allowing any slippage or loss of grip. Understanding this, I decided to test the height at which the foot could remain suspended without slipping down the face of the waxed board.	
<b>Abstract</b> <b>Methods/Materials</b> I defined the best performing wax by the condition that yielded the greatest height at which the "foot" was able to stay suspended without slipping. During each trial, there were some variables that might have effected the performance. The temperature of the air was 62 degrees Fahrenheit and the humidity was around 80%. The weather conditions may have effected the performance of each wax. After testing the waxes multiple times, each wax showed smoothing of the surface of the wax from repeated use. The only reason that the wax performance may have been different under wet and dry conditions was the wax gradually began to get smoother.	
<b>Results</b> Based on the product test, if I were to choose a surf wax, it would be Terra Wax. I would choose Terra Wax for multiple reasons. Terra Wax has treeless paper for its wrapper, which biodegrades quickly, is non-toxic and doesn't hurt the environment. Terra Wax performed best in my test as well.	
<b>Conclusions/Discussion</b> After collecting and analyzing the data, I conclude that wax B-Terra Wax, out performed wax A-Sex Wax and wax C-Sticky Bumps. Terra Wax out performed the two other waxes by achieving the highest average height of the board before slippage occurred. In the actual surfing environment, this result would correlate to better adherence of the surfer's foot to the board in conditions of steeper angles.  After testing, I have determined that my hypothesis was incorrect. I found that Terra Wax achieved the highest average height before the weight began to slip compared to Sex Wax and Sticky Bumps. Terra Wax also is the most versatile wax because it performs well in all types of water conditions.	
<b>Summary Statement</b> Project is about comparing surf wax friction	
<b>Help Received</b> Advice from Vic Miller	