



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> Nayeli Martinez	<b>Project Number</b>  34074
<b>Project Title</b> Exposed: A Study of the Effectiveness of Waterproof Sunscreen	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of my project was to determine the effectiveness of waterproof sunscreen.</p> <p><b>Methods/Materials</b> My materials included sunscreens (Banana Boat SPF 100, Block Up! 70, Sensitive Skin SPF 50), 2 ring stands with thermometer clamp, saran wrap, Vernier LabQuest2, two UVB probes, outdoor access, water, electronic balance, Tupperware, and two stirring rods. My method was to place one sample of sunscreen under water for 15 or 25 minutes while a different sample of the same sunscreen was not in water for that same time. After the time was up I'd place the sunscreen on the ring stand and measure the UVB penetrating through the sunscreen for both samples.</p> <p><b>Results</b> The results I obtained clearly showed that the longer the sunscreen was soaked in water, the less effective it became. By using the UVB probes, I was able to determine that the samples placed in water let in more UVB than the sunscreen samples not placed in water. The samples of sunscreens placed in water for 25 minutes all rejected the null hypothesis by 99%.</p> <p><b>Conclusions/Discussion</b> My data does support my hypothesis because I hypothesized that the sunscreens would lose effectiveness after being under water. The data I collected clearly shows that while under water, the sunscreen had lost effectiveness. Due to these results, sunscreen should be applied frequently if there will be time spent in water.</p>	
<b>Summary Statement</b> To determine whether waterproof sunscreen is effective after being in water.	
<b>Help Received</b> Adviser guided me through the process of a science project.	