



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> <b>Micah S. Rapelje</b>	<b>Project Number</b> <b>J1317</b>
<b>Project Title</b> <b>Sunscreen in Layers</b>	
<b>Abstract</b> <b>Objectives/Goals</b> This project was designed to discover the effect of sunscreen thickness on UV protection. The hypothesis was that more layers of sunscreen, would increase the protection from UV rays. <b>Methods/Materials</b> A UV meter was used to measure how much of the hurtful rays were going through. To apply the SPF 15 sunscreen evenly, sprayable sunscreen was applied. The bottle was stabilized by placing heavy objects on top. Sunscreen was sprayed onto plastic with the doors of the shed closed. The meter was stabilized by hammering a metal post into the ground and clipping the meter onto it, with the measuring window toward the sun. The plastic with sunscreen was held above the meter to block the UV rays. The meter measured the strength of the UV rays coming through, and the procedure was repeated until there were many layers. Then, the results were compared to find if layers increase protection. <b>Results</b> On March 3, from 1:15 PM to 2:30 PM, in the total of 12 layers of sunscreen, the change of UV index changed tremendously. With one layer, 2 UV index units were blocked by the sunscreen. With six layers, the average blockage was 6 units. With twelve layers, the average change was 12 units. As expressed in the results, when one more layer of sunscreen was applied, the UV index units decrease. <b>Conclusions/Discussion</b> The results of the experiment strongly agreed with the hypothesis. It would be interesting to try another SPF level.	
<b>Summary Statement</b> This project is about if layers of sunscreen improves the protection from the ultraviolet rays.	
<b>Help Received</b> Mother helped make poster; Father helped perform experiment; Ms. Amend helped type report.	