



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jeffery J. Kearns, Jr.</b>	<b>Project Number</b> <b>J1114</b>
<b>Project Title</b> <b>Does the Color of a Shirt Make a Difference in Ultraviolet Protection? Does Rit Sun Guard(TM) Really Work?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Part one was to find out if color of a shirt makes a difference in blocking ultraviolet rays. Part two was to determine if using Rit SunGuard increases the ultraviolet protection.</p> <p><b>Methods/Materials</b> I used four shirts identical except in color. A black light and photo sensitive paper. I ran time tests at different exposer lengths. The paper would read the longer the exposer to time to light, the darker the blue the paper would become. Part two of the experiment I took the same shirts and wash them in the product then repeated the test.</p> <p><b>Results</b> When all shirts were exposed to the light for 30 minutes, all shirts had the same amount of ultraviolet protection. When the time exposure to the light was increased to longer times, the amount of ultraviolet protection decreased greatly in the white and the blue having the best protection. This showed me that all of the shirts have some UV protection from the sun rays for a short amount of time. The darker the color shirts continual to have better protection from UV rays as the time exposer to the light increased. Part two the photo papers stay almost white in color for most of the time exposer test. Not until you got to longer exposer times did you see the paper taking on blue in color.</p> <p><b>Conclusions/Discussion</b> I ran the test serval times to make sure my results were accurate. Color does make a difference in UV protection. While all shirts have some UV protection, the white shirt would let the most ultraviolet light thought. The blue, the darkest of the shirts was the best color for blocking ultraviolet light. The product Rit SunGuard does increase the blockage of UV sun rays from passing though the clothing.</p>	
<b>Summary Statement</b> Does the color of a shirt, and the product Rit Sun Guard make a difference in Ultraviolet Protection?	
<b>Help Received</b> Mother helped type report.	