



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Olivia Griffin; Nirayl Kuba</b>	<b>Project Number</b> <b>S1312</b>
<b>Project Title</b> <b>Stayin' Alive</b>	
<b>Abstract</b>	
<b>Objectives/Goals</b> Exposing E. coli bacteria to increasing increments of short-wave ultraviolet light to observe the effect on their mortality rate.	
<b>Methods/Materials</b> Our information was obtained by first exposing 10 plates of E. coli bacteria to ultraviolet light at different times starting with 0 seconds and ending with 300 seconds, using 30 second time intervals. Each plate was divided in half and each half was exposed to two different times with a difference of 30 seconds. After exposure, we compared the amount of living bacteria between each half and came up with a percentage change in bacteria survival. We did this by comparing dark and light areas on the plates of bacteria with a computer program which made a histogram of pixel brightness.	
<b>Results</b> After comparing the percentage we got on each plate, we found that the average decrease in bacterial survival was 10%. This means that every additional 30 seconds bacteria were exposed to ultraviolet light approximately 10% of the bacteria died.	
<b>Conclusions/Discussion</b> Our hypothesis was that the longer bacteria is exposed, the more insignificant an effect an additional 30 seconds would have on the bacteria. We found that whatever time the bacteria was expose to the U.V. light the percentage of bacteria killed remained approximately the same.	
<b>Summary Statement</b> The effect of ultraviolet light on E. coli bacteria	
<b>Help Received</b> Sunny LeMoine and Colin Matheson helped edit and provided some supplies	