



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Aria Delgado	Project Number J1704
Project Title Using Ultraviolet Light to Sanitize Music Instruments	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective is to determine if ultraviolet light can effectively eradicate bacteria from student music instruments.</p> <p>Methods/Materials I used sterile nutrient agar plates, sterile swabs, clarinet reeds, saxophone reeds, and a ultraviolet light. The agar is used as a food source for the bacteria. The ultraviolet light was used at various time lengths (30, 90, and 120 seconds).</p> <p>Results The largest amount of bacteria on a reed from the 120 seconds of UV light group was 7 units of bacteria remaining, and a low for this variable was 0 units, which was the least amount of bacteria possible on the surface of the reed. The low shows that UV light, in certain situations, is capable of completely eliminating bacteria from a reed. From my results, the average was 0.69 units, the lowest average among the variable UV exposure times. I believe the reason why 120 seconds under the UV light was the most effective at decreasing bacteria was because the more time the surface is under a UV light, the more it kills bacteria on that surface.</p> <p>Conclusions/Discussion I learned that an instrument reed exposed to UV light for 120 seconds can reduce bacteria on that surface the most. Because of all the bacteria on the reed, this can be important for one's health. In conclusion, wind players should be more careful with cleaning their own instruments to prevent fungi and bacteria growth in the instrument. Exposing the reeds to ultraviolet light for 120 seconds was effective at eradicating most bacteria found on the reeds.</p>	
Summary Statement I showed that exposing music reeds to ultraviolet light for 120 seconds was an effective bacteria sanitizer.	
Help Received Mr. Davin Aalto, Sanger High School AP Biology Teacher	