



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Daphne Liang</b>	<b>Project Number</b> <b>S1309</b>
<b>Project Title</b> <b>The Effects of Different Colored Lights on Algal Oxygen Production</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to determine whether the color of light has any effects on an algae's growth and oxygen production. I believed that if the color of light matched the classification color of the algae, then it would degrade its rate of photosynthesis, thus producing less oxygen. <b>Methods/Materials</b> Two types of algae were used to perform this experiment. Batrachospermum, a red algae, and Volvox Aureus, a green algae, were both cultured under red and green light under the same temperature conditions. After three hours, I used a Dissolved Oxygen Kit to determine the amount of oxygen that was released by the algae during photosynthesis. <b>Results</b> The algae was more prolific when the classification color differed from the color of light it was cultured under. When the colors matched, not as much oxygen was produced. <b>Conclusions/Discussion</b> My conclusion is that when the color of light does not match the classification color of the algae, more oxygen would be produced during photosynthesis. The reason for this lies in the pigments that certain types of algae contain. Red algae contains phycoerythrin, which reflects red wavelengths and absorbs blue wavelengths. Therefore, the algae would simply reflect the energy released by the red light and absorb the energy produced by the green light.	
<b>Summary Statement</b> My project demonstrates whether the color of light would affect the amount of oxygen released by the algae during photosynthesis.	
<b>Help Received</b> Dissolved Oxygen Kit was borrowed from Dr. Allen Jang.	