



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> Emerson W. Glassey	<b>Project Number</b> <b>S1707</b>
<b>Project Title</b> <b>Photosynthesis and CO(2) Consumption</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My goal was to determine the correlation between light intensity and a plants rate of photosynthesis. I also tried to distinguish what the correlation was. <b>Methods/Materials</b> I placed a Dieffenbachia inside of a 1' x 1' x 2' airtight enclosure. I placed 4 2' fluorescent bulbs about 3'9" from the enclosure, spaced equally. I changed the light levels between No Lights, 2 Lights, and 4 Lights. I used a CO(2) and a O(2) sensor to measure the rate of photosynthesis. By measuring the rate of decline of the CO(2) and the rate of incline of the O(2) I was able to estimate the rate of photosynthesis. <b>Results</b> I found that as the light intensity increased the rate of descent of the amount of CO(2) went up and the rate of ascent of the O(2) rose as well. This meant that the rate of photosynthesis was rising. <b>Conclusions/Discussion</b> I concluded that yes, the light intensity does effect the rate of photosynthesis, as the light intensity increased the rate of photosynthesis increased. In the future I want to test the effect of temperature on the rate of respiration. Then I would be able to create an equation that links oxygen slope, carbon dioxide slope, light, and temperature together.	
<b>Summary Statement</b> I tested to find the correlation between light intensity and a plants rate of photosynthesis.	
<b>Help Received</b> The chemistry teacher at the Willits High School lent me sensors; students in my biology class and my biology teacher helped proofread.	