



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Keri A. Neal	Project Number J0919
Project Title Will the Effect of Decreasing Photosynthesis in an Aqueous Solution Raise or Lower the pH?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this experiment is to see how the process of photosynthesis affects the pH in an aqueous solution.</p> <p>Methods/Materials (1) Purify distilled water in an autoclave. (2) Place 5 beakers in each of four wooden boxes. (3) Pour 350ml of distilled water into 10 beakers. (4) Pour 350ml of pond water into the other 10 beakers. (5) Calibrate the pH meter with a buffer of seven before starting any recordings. (6) Record the pH of each beaker. (7) Place 8g of Elodea plants in each beaker. (8) Cover one box containing distilled water with the black plastic and one box containing pond water with black plastic. (9) Cover the other box containing distilled water with the clear plastic and the other box containing pond water with the clear plastic. (10) Turn on the fluorescent light. (11) Calibrate the pH meter using a buffer of seven before starting each recording and record the pH in each beaker every 30 minutes for 8 hours.</p> <p>Results The results show that in the clear-pond water the pH changed at an average of .43 on the pH scale. The clear-pond water changed because the light energy could reach the Elodea and the pond water may have had nutrients in it that reacted to the light. In the clear-distilled water the pH changed at an average of .228 on the pH scale. In the blocked-distilled water the pH changed at an average of .178 on the pH scale. In the blocked-pond water the pH changed at an average of .124 on the pH scale. The blocked-pond water didn't change very much because it was mostly restricted from the light leaving very little light energy to reach the Elodea.</p> <p>Conclusions/Discussion The hypothesis is incorrect. In the containers restricted from the light, the pH level increased slightly. In the containers not restricted from the light, the pH level increased several more pH points than the other containers. This is because with the containers being restricted from the light, the light energy is not able to reach the Elodea.</p>	
Summary Statement The purpose of this experiment is to see how the process of photosynthesis affects the pH in an aqueous solution.	
Help Received Mrs. Williams helped me with the experimental design.	