



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Leslie S. Gray	Project Number J0813
Project Title What Effect Does Aeration Have on Algae in Pond Water?	
Abstract Objectives/Goals The purpose of my project was to see if injecting air cleans the algae in pond water. I predicted that injecting air into pond water would reduce the amount of algae. Methods/Materials Four ten gallon tubs were filled with 4 gallons of pond water collected from the same area in the pond. Filamentous algae was also collected from this same area. The algae was squeezed and strained to remove as much water as possible. 200 grams of algae was weighed and placed in each of the four tubs. 2 watt Aquarium pumps were placed in 3 of the tubs (the 4th was the control with no aeration). Each pump was placed on an automatic timer to run twice a day. Each pump ran daily for different amounts of time totalling: 90 min., 120 min., 150 min. On days 5, 10 & 15 the algae was strained and weighed from all four tubs. Results The algae was reduced 51%, 44%, and 38% in the tubs receiving aeration of 150 minutes, 120 minutes and 90 minutes respectively. The algae in the tub receiving no aeration (the control) did not change over the 15 day experiment. Conclusions/Discussion It was my thinking that aeration would put oxygen in the water, therefore keeping it fresher and free of algae. While aeration did clean up the water it was not for the reason I thought (according to my resource Mr. Young). The bubbles created agitation which is what killed the algae. Algae actually needs oxygen to grow. So I was giving it a necessary part of its reproduction needs. But the aeration/agitation had an overriding affect.	
Summary Statement I was testing the effects of aerating pond water to see if it would reduce the algae in the pond water.	
Help Received My Mom helped typed the report; Mr. Gong helped me design the Procedural Flow Chart.	