



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Kyla M. Fenning	Project Number J1909
Project Title How to Increase the Longevity of Plankton Samples	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Problem Statement: Can the longevity of plankton samples be increased by providing aeration or changing the temperature and lighting conditions?</p> <p>Hypothesis: Creating conditions similar to the ocean environment by maintaining the samples at ocean temperature, with natural light fluorescent aquarium lighting, and with strong aeration should increase the longevity of the plankton samples. It is expected that the temperature variable will have the most individual benefit and the lighting variable the least individual benefit.</p> <p>Methods/Materials Materials: 1 Sample of plankton from Ocean Institute (approximately 1-1 ½ cup) 4 Airstones and tubing 2 Empty fish tanks (approximately 20 x 10 in) 8 Uniform sized glasses 1 15 watt aquarium fluorescent light bulb 2 Air pumps 2 15 watt aquarium incandescent light bulbs 5 Floating thermometers Ice and tap water (as needed) 4 Plastic bowls 1 Eyedropper; 3 inch rectangular glass specimen slide with indentation in center; 8 fl. oz. glass measuring cup; clear plastic petrie dish; tablespoon; plastic straw; microscope; black permanent ink Sharpie; poster board; plastic bucket with approximately 5 quarts of reverse osmosis water</p> <p>Procedure: A. Receive sample from Ocean Institute B. Allocate plankton sample C. Eight test samples: 1-(Control) room temperature, no aeration, incandescent light; 2- variable: ocean temperature; 3- variable: fluorescent light; 4- variable: aeration; 5- variables: ocean temperature, fluorescent light; 6- variables: ocean temperature, aeration; 7- variables: fluorescent light, aeration; 8- variables: ocean temperature, fluorescent light, aeration</p>	
Summary Statement My project investigated the potential of increasing the longevity of plankton samples by controlling lighting conditions, aeration, and temperature .	
Help Received Several people at the Dana Point Ocean Institute helped me with my project including arranging for the plankton samples to be drawn for me, giving advice, and answering any questions I had. They also provided me with the microscope.	