



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Colin T. Dowdell	Project Number J2007
Project Title The Effects of Micronutrients on Phytoplankton	
Abstract Objectives/Goals My objective was to discover if varied concentrations of micronutrients affected the population of phytoplankton (nannochloropsis sp.) at the end of six days. Methods/Materials Culture set-up was conducted as follows: 1) Make sterilized seawater by pouring 10ml of bleach in 22L of filtered seawater. 2) Make 5ml/1500ml concentration and calculate other concentrations with 5ml concentration and water. 3) Inoculate all flasks with algae and set up with aerators and parafilm. 4) Count on 3rd and 6th day. Record in Excel workbook and graph. Results At the end of six days, the control had the highest algae population while concentration 0.2 and 0.5 were the third and second highest. Conclusions/Discussion These results do not support my original hypothesis that 2ml of micronutrient/1500ml of seawater concentration would increase the algae population the most. Since, the control increased the algae population the most we can deduce that micronutrient concentration control an algae population. We can also infer that a lower concentration does not control algae such as a higher concentration such as 5ml/1500ml. Knowing how much algae there is in an ecosystem can be essential. Knowing the nutrient level in the water can help scientists predict when the next algal bloom, a period where algae is quickly produced and dies quickly, is. Algae is considered the building block of an ecosystem, one example being life. Just changing one tiny factor in an environment can lead to a completely different type of environment.	
Summary Statement This study showed the effect of micronutrients on phytoplankton population at the end of six days.	
Help Received Used lab equipment at Cabrillo Aquarium under the supervision of Jenn Corpuz.	