



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

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<b>Project Title</b> <b>The Comparison of Acidity Level and Its Impact on Quantities of Plankton in the Monterey Bay</b>	
<b>Objectives/Goals</b> The purpose of this project is to show how acidity level is currently affecting plankton in the Monterey Bay. What I am hoping to accomplish is to spread a higher level of awareness of how global warming and ocean acidification is affecting plankton. Plankton need to be publicized so people understand what plankton do and how we can support them in their fight against global warming. <b>Abstract</b> <b>Methods/Materials</b> In this experiment there were two procedures conducted. One of them was the Pier Method. In this method a plankton net was hung from a pier for 20-30 minutes. Then the samples of plankton were collected into a jar and then a pH meter was inserted into the sample of water. The second method was the Beach Method. In this method the difference was that buckets were used to dump seawater into a plankton net. Next the samples were collected and tested using a similar procedure as the Pier Method. I evaluated the quantities of plankton using a flashlight and microscope. <b>Results</b> The results of this experiment were Monterey State Beach with the lowest pH level (7.6) and the highest quantity of plankton. However the method used for Monterey State Beach was different than the other locations (Pier Method). Next was Marina State Beach with a pH of 7.7 and a moderate amount of plankton. Seaside State Beach was another location that was tested with a pH of 7.8 with a low amount of plankton. Finally Pebble Beach with a pH level of 8.1 and a low amount of plankton. <b>Conclusions/Discussion</b> In conclusion, the data shows that the stated hypothesis is incorrect because the higher the pH was, the less plankton there were. What I hope this project shows is how plankton can be affected by a higher pH. After the research of how plankton are affected by ocean acidification and global warming it is now understood that plankton are at risk and many need to pay close attention to any large issues of depletion. Finally the real life applicability of this project is to introduce people to plankton and educate them on plankton and their significance to the ocean and human environment.	
<b>Summary Statement</b> I showed how pH levels can affect quantities of plankton at different beaches in the Monterey Bay.	
<b>Help Received</b> I borrowed a plankton net and microscope from MBARI (Monterey Bay Aquarium Research Institute). California Department of Fish and Wildlife gave me permission for the collection of plankton.	