



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jamie M. Lin</b>	<b>Project Number</b> <b>S1212</b>
<b>Project Title</b> <b>The Effect of Acidification on Mytilus edulis Shells</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The pH of seawater was changed to test how different acidities affected the total composition of Mytilus edulis shells over time. <b>Methods/Materials</b> An equal number of Mytilus edulis shell halves were separated in 4 separate containers (labeled A,B,C,D) of distilled water with instant ocean sea salt. Each container was mixed with different amounts of distilled white vinegar and their acidities were measured with a pH meter. Each week, the shells were removed, cleaned, and their masses recorded. The process was repeated for 3 more weeks. <b>Results</b> Out of the 4 groups of shells tested, Group C (pH=7.4) appeared to have the greatest overall change in mass with its mass decrease at an average of 0.045 grams. Group B (pH=7.6) had the second greatest overall mass decrease of an average of 0.21 grams. Group D (pH=7.2) had the second least overall change in mass while Group A (pH=8.4) showed the least amount of mass change. <b>Conclusions/Discussion</b> This experiment supported the hypothesis that the seawater with a lower pH (more acidic) would cause the shells to lose more mass over the span of 3 weeks. This translates to greater devastation of marine life in the future as the ocean continues to become more acidic.	
<b>Summary Statement</b> I demonstrated the affect of ocean acidification by observing mussel shells that were placed in acidic solutions for a span of three weeks.	
<b>Help Received</b> My science teacher provided the guidelines and equipment in order to conduct the experiment.	