



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Shakil A. Matin</b>	<b>Project Number</b> <b>S2208</b>
<b>Project Title</b> <b>The Effect of Naproxen on the Respiration of Brine Shrimp</b>	
<b>Abstract</b> <b>Objectives/Goals</b> To examine the overall result of applying an abundant pharmaceutical (naproxen) into an environment that can be easily susceptible to any amount of changes. <b>Methods/Materials</b> Prepared the naproxen stock solution and serial dilutions using deionized water and a hotplate/stirrer Utilized an autoclave to sterilize test flasks and air tubing Created a 3.6% salt water solution to hatch brine shrimp eggs and provide a habitat for them to live in Provided an air pump and air tubing to run through each of the experimental flasks containing the brine shrimp After calibrating the dissolved oxygen probe, the probe could read and detect the amount of dissolved oxygen in ppm (mg/L) Ran two trials, each 72 hours long- obtaining data in increments of 0, 6, 12, 24, 48, and 72 hours, respectively per each trial <b>Results</b> My data was interesting, in that the common initial trend was that higher concentrations of naproxen increased the amount of dissolved oxygen for the first hours, but levels eventually dropped significantly lower than the control group by the end of each trial, as seen in the results section. Both trials indicate that all concentrations of naproxen decrease the respiration of the brine shrimp over just short periods of time. <b>Conclusions/Discussion</b> Results showed that the control group of brine shrimp had much higher respiration rates than the brine shrimp treated with varying concentrations of naproxen.	
<b>Summary Statement</b> Analyzing the effect of naproxen on the respiration of brine shrimp through data consisting of dissolved oxygen levels.	
<b>Help Received</b> Dr. Malhotra guided me and pushed me to try my hardest to achieve a project that had valid results to confirm my hypothesis.	