



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

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Project Title Pollution and Brine Shrimp Hatching Numbers	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To determine the extent of the damage that pollutants do to brine shrimp eggs. (car wash solution, pesticide, fertilizer, motor oil)</p> <p>Methods/Materials Ideal environment was created (30 mL sea salt, 1 L distilled water, 2 drops water detoxifier). Then it was altered by the introduction of car wash solution, pesticide, fertilizer, and motor oil separately and in varying concentrations: 1 drop/33.3 ppm, 2 drops/66.7 ppm, and 3 drops/100 ppm. 200 brine shrimp eggs were then put into each environment. Numbers that hatched in each were compared to the numbers of those that hatched in non-polluted water. (All water was kept at a constant temperature of about 24 degrees Celsius)</p> <p>Results The most harmful pollutant was car wash solution which resulted in a 100 percent decrease (in hatching numbers, compared to control group). The second most harmful pollutant was pesticide which resulted in a 100, 99.7, and 97.7 percent decrease. The third most harmful pollutant was fertilizer which resulted in a 99.7, 98.2, and 96.7 percent decrease. The least harmful pollutant was motor oil which resulted in a 98.2, 96.4, and 93.6 percent decrease.</p> <p>Conclusions/Discussion The hypothesis was disproved in that car wash solution caused the greatest decrease in hatching numbers, not pesticide as was predicted. Also, the smallest decrease in hatching numbers was found to be a 93.6 percent decrease, much higher than the predicted approx. 50 percent decrease.</p>	
Summary Statement Brine shrimp eggs were placed in various polluted environments and the hatching numbers were compared.	
Help Received Parents provided supplies/resources.	