



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> Esmeralda Velasquez	<b>Project Number</b> <b>J2322</b>
<b>Project Title</b> What Effect Does pH Have on Snail Reproduction?	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My project was about the effect of pH on aquatic snail reproduction. I wanted to study a project in the zoology category because I like studying the life of animals and what affects them, in this case the effect of pH on snail reproduction. I hypothesized that the base bowl would lay more eggs due to the calcium content of the shells and the alkalinity of the base solution compared to the high acidity of the vinegar solution.</p> <p><b>Methods/Materials</b> I used 10% vinegar solution as the acid variable and 10% sodium bicarbonate solution as the base variable. The solutions were added to the snail bowls in increments to establish acidity/alkalinity. I also had a control bowl in which no solution was added. The responding variable was snail eggs laid per day. Additional supportive data was taken on snail weight, pH levels of bowls, and egg loss (non-viable egg count).</p> <p><b>Results</b> Snails in the acidic solution laid a minimum of .89 eggs and the basic solution laid 1.4 eggs on average per day while the control was 1.78 eggs on average per day. Weight data shows the average of the control increased by 5% while the basic bowl lost 4.51% of their weight, and the acidic bowl lost 5.68% of their weight. The pH level for the acidic bowl did not go below 5.0 and the basic level did not go above 8.</p> <p><b>Conclusions/Discussion</b> My hypothesis was right. I believe that average data showed the acidic snails laid less eggs because the vinegar was disintegrating the snail shells. In their quest to repair their shells in order to survive, they were not able to lay as many eggs. Snail shells are composed of calcium deposits which are very susceptible to acidic damage. The damage was enough to cause stress to the snail and slow down the reproductive process.</p>	
<b>Summary Statement</b> The level of pH affects snail reproduction.	
<b>Help Received</b> Teacher as facilitator	