



California Science Center
CALIFORNIA STATE SCIENCE FAIR
 2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Marisol S. Luntao	Science Fair Use Only <h1 style="margin: 0;">J0420</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) How Does Exposure to the Atmosphere or Addition of Antacids Affect the pH of Soda?	Division <input checked="" type="checkbox"/> Junior (6-8) <input type="checkbox"/> Senior (9-12)
Preferred Category (See page 5 for descriptions.) 4 - Chemistry	
Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p>Objectives: The objectives are (1) to determine how the pH values of different brands of regular and diet soda are affected by the length of time the cans are left open to the atmosphere and (2) to determine how the addition of antacids affect the pH of soda.</p> <p>Materials and Methods: One can each of regular and diet brands of Coke, Pepsi, 7-Up, Slice, Mountain Dew and Shasta Root Beer were used. The pH of each was measured at the time the can was opened and measurements were repeated every hour for 10 hours and then at 20, 30, 40, and 50 hours after opening the cans. In the second part, Coke and four brands of antacids were used. The pH was measured when 1/4 tablet was added and then again after each addition of 1/4 tablet up to a total of 3 tablets.</p> <p>Results: Diet soda had higher pH values than regular soda, but both values increased in proportion to the length of time the cans were left open to the atmosphere and the pH became stable ten hours after the cans were opened. Addition of antacids increased the pH of soda and the pH values continued increasing with further addition of antacids.</p> <p>Conclusions: Opening a can of soda resulted in the loss of carbon dioxide. The longer the cans were left open to the atmosphere, the more carbon dioxide gas was lost due to evaporation, and the pH values increased because the acidity decreased. Addition of antacids neutralized the acidity of the soda resulting in an increase in the pH values.</p>	
Summary Statement (In one sentence, state what your project is about.) The pH values of the diet and regular brands of soda, measured every hour for several hours after exposure to the atmosphere, increased, and addition of antacids significantly increased the pH values of soda.	
Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. The pH meter and buffer solutions were borrowed from Dr. Lowell Jordan, a retired professor from the University of California, Riverside. Mom helped with the protocol for the experiment and helped set up the presentation board.	