



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Zahabiya H Chithiwala	Science Fair Use Only <h1 style="margin: 0;">J0403</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) How Does the Acidity or Basicity in a Liquid Affect Plant Growth?	Division <u>X</u> Junior (6-8) _ 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>Title, Theme and Purpose: This project hypothesizes how the acidity or basicity in a liquid affects the growth rate of plants. Acidic levels of water have a greater damaging affect on plants rather than neutral levels. The purpose of this project is to compare the affects of neutral levels and acidic levels and their affect on plants. This project also examines the affect of acid rain on the life of plants.</p> <p>Methodology: This project tests how various pH levels can affect the growth of plants. Testing the pH level of each water using litmus paper on ten waters from different places gathered from all over the country. Each water was tested and recorded with the pH level each liquid turned out to be. Garbanzo beans were grown in each liquid on cotton. The containers were each 17 cm tall and every other day was watered in 5 mL of each liquid. For a total of 15 days each set of garbanzo beans grew in the various types of liquids and were set out in the sun everyday. The daily results were recorded and graphed showing the results of the ten sets of plants grown in different liquids.</p> <p>Results: After 15 days of growing the results came out as expected. My hypothesis #higher acidic levels had a greater damaging affect on plants rather than neutral levels# was accepted. The more acidic levels between 1 and 6 grew slightly or did not grow at all and the neutral levels between 7 and 8 grew very much. The three plants that grew the most were grown in distilled water, spring water from Arizona and Store Bought water (Days Inn Hotel).</p> <p>Conclusion: The results show that the plants grown in neutral levels grew and the basic and acidic levels did not grow. The purpose of studying and researching more about this is to compare levels of pH.</p> <p>Further Research: How would the project change if I used a wider range of pH levels from 1 to 14? How would these acidic levels affect people or other living organisms? Would I have different results if I used a different type of plant?</p>	
Summary Statement (In one sentence, state what your project is about.) How acidity or Basicity affects Plants?	
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. Dad reviewed project	