



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Hilary N. Bernstein</b>	<b>Project Number</b> <b>J0605</b>
<b>Project Title</b> <b>Rain Drops Are Falling on My Head</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to learn what factors affect the acidity of rain. I thought that the rain would be more acidic after it had not rained in awhile, if it was not windy, and if it was during rush hour, because if it had not rained in awhile there would be more pollution in the air; if it was not windy the pollution could not be blown away, and there would be more pollution in the air during rush hour. <b>Methods/Materials</b> In this experiment I used pH indicator solution to test the acidity of the rain. The factors I tested include: the outside temperature, how long it was raining, how much it rained, if it was during rush hour, how hard it rained, whether it was windy, if the sun came out, and how many days it had gone since the last rain. To test for these factors I used a thermometer, a cup to collect rain, a ruler, a clock, a dropper, pH indicator solution, the color chart and a test tube. For fourteen different rains from October to January, I collected rainwater and kept track of the data. <b>Results</b> When it was windy, the average pH was 6.5, which was more acidic than when it was not windy. During rush hour the rains had a pH of 6.5, which was more acidic than when it was not during rush hour. When it had rained the day before, the rain was not very acidic, having a pH of 6.8. The longer it was raining for, the less acidic the rain became, but if it rained more than 25ml the rain was more acidic. Finally, the rain was less acidic when the sun was out, having an average pH of 6.72. I found out that windiness, the duration of the rainfall, whether it was during rush hour, the amount of rain and the sunlight affect the acidity of rain. Temperature, how hard it is raining, and the length of time between rains do not affect the acidity. <b>Conclusions/Discussion</b> My hypothesis was not completely correct. I thought that the rain would be more acidic after it had not rained in awhile, but the rain was more acidic after just two days than twenty days since the last rain. I thought that the rain would be more acidic if it was not windy, but it turned out to be the opposite. I was right about it being more acidic during rush hour. I was able to attain my objective. I learned that certain factors do affect the acidity of rain, but here in a suburb of Los Angeles we do not have acid rain.	
<b>Summary Statement</b> This project is about what factors affect the acidity of rain.	
<b>Help Received</b> Mother helped acquire materials.	