



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Angela E. Czintos	Project Number 36886
Project Title Boiling Cold: Lowering the Boiling Point of Water	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I wanted to explore the phenomena of lowering the boiling point of water through decreasing air pressure or adding solutes into the water.</p> <p>Methods/Materials Using a vacuum pump to decrease the air pressure in a glass containing the tested solution I watched for the solution to begin to boil. I then measured the pressure within the glass and the temperature of the solution. I did this procedure for several different temperatures and plotted a curve.</p> <p>Results The lower I decreased the pressure, the lower the boiling temperature of the solution became. By adding salt I increased the boiling temperature of water for a given pressure.</p> <p>Conclusions/Discussion I was able to lower the boiling temperature of water easily to room temperature. This may suggest an easy way to purify or desalinate water with less energy than current methods. To add on to this point, adding salt to water seemed to increase the boiling temperature of water for a given pressure. These results prove that water's contaminants contribute to its boiling point, and further studies could examine why such things happen.</p>	
Summary Statement By decreasing the air pressure within a glass containing water I was able to lower the boiling point to room temperature.	
Help Received I received ample help from my dad who explained the pressure temperature curve, and method of using the vacuum pump with gauges.	