



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Alden S. Mitchell	Project Number J0616
Project Title Boiling Points	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective to my project was to determine if the boiling point of water changed at different elevations due to atmospheric pressure.</p> <p>Methods/Materials My experiment started at sea level. I did two things, one, record the atmospheric pressure, and two, pull out my camping stove and boil water, measuring temperature with a thermometer. I recorded the water temperature every fifteen seconds from the moment I started to the maximum boiling point; this is the point where the water stops increasing in temperature and stays at a rolling boil. I repeated this process twice at the sea level location. Once I recorded all results, I moved to the next location. I traveled up to an elevation of 1,000 feet and completed two more trials. I completed trials ranging from sea level to 7,000 feet in 1,000 feet increments. When every trial was put down on paper my experiment was complete. I then reviewed and compared my results and came to my conclusion.</p> <p>Results After my trials I found three main results. The first was that as you go up in altitude, the atmospheric pressure decreased. The second was that as the atmospheric pressure decreases, so does the boiling point (in degrees Fahrenheit). Combining these results also means that as you go up in altitude, the boiling point of water decreased. So, yes, atmospheric pressure does indeed affect the boiling point of water.</p> <p>Conclusions/Discussion Compared to my hypothesis, I was right. Although I already suspected the answer to this problem, I did not know why, or if, in fact, it was true. My experiment proved that the pressure decreased as I traveled up to Tahoe (the place of my final trials) and that the boiling point lowered.</p>	
Summary Statement An experiment to determine whether atmospheric pressure affects the boiling point of water.	
Help Received My dad drove me between trials; he also helped setting up the camp stove and calling out temperatures while I recorded them.	