



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Donna Gardner; Morgan Miller; Karolyn Powell</b>	<b>Project Number</b> <b>J0704</b>
<b>Project Title</b> <b>Geysers: Earth's Renewable Energy</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of our project was to determine if the level of water in the eruption tube of a geyser would influence the time of the eruption. We believe that the higher the water level in the eruption tube the quicker the geyser will erupt.</p> <p><b>Methods/Materials</b> We used a variety of materials to construct a model of a working geyser. A geyser has three phases: heating, erupting and refilling. We eliminated the refilling phase and filled the 1.4-meter length plastic eruption tube to four different levels and started heating the flask with the same temperature water each time. We tested each level three times.</p> <p><b>Results</b> The water level in the tube seemed not to be a factor in the eruption time. Our results showed only minutes between eruptions at the different water levels.</p> <p><b>Conclusions/Discussion</b> Our conclusion is that the water level in the eruption tube of a geyser does not make the geyser eruption intervals come faster. Some other areas of future study could include how the energy generated from the heat and steam of the geyser can produce renewable energy. We see now that the refilling stage is very important to maintaining a higher heat that would create more steam.</p>	
<b>Summary Statement</b> We built a model geyser and filled the eruption tube to different levels to see if it would affect the eruption time.	
<b>Help Received</b> Mr. Casey Mcluskey and Mrs. Barbara Maclaughlin helped us by supporting us in this process with feedback, ideas and letting us borrow the ring stand and thermometer. Mr. Powell helped us with engineering and modification of the ring stand and rubber stopper. Mrs. Powell helped us by taking us to get supplies.	