



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jonah F. Li-Paz</b>	<b>Project Number</b> <b>J0913</b>
<b>Project Title</b> <b>Power Shower: Home Hydropower</b>	
<b>Objectives/Goals</b> The purpose of this experiment was to discover whether I could produce electricity utilizing the flow of water coming in or draining out of household fixtures. The information gained from this experiment could help others produce electricity that could go to the electrical grid and could be made available to all consumers or could be stored for home use.	
<b>Abstract</b> <b>Methods/Materials</b> I built a hydropower unit (after several failed attempts) and ran two basic experiments. 1) I used the showerhead to turn the turbine, at about 240 RPM. In doing this I gained 0.02 volts measured on my voltmeter. 2) Then I placed my hydro-generator under the increased pressure of my garden hose. The RPM was about 350. The voltmeter read about 0.03 V.  Materials Used: Styrofoam Cylinder; Plastic Spoons (x8); Dowel; Glue Gun; Template; Marking Pen; Plastic Container; Thread Rod; 5 Hex Nuts; Glue Gun; Multi meter; Paper Fasteners/ Paper Clips (x4); Copper Wire Coil (x4); Foam Core; Plastic Coil Protector; Template; Sand Paper; Needle Nose Pliers; Scissors; Glue stick; CD/Double faced tape; Magnets (x4); Tolerance Card; X Marking Pen; Garden Hose; Pressure meter; Shower head/Pipe.	
<b>Results</b> I was able to produce electricity! In the end I found that my hypothesis was right and that the higher pressure (PSI) of the garden hose would be more effective in making power than the faucet.	
<b>Conclusions/Discussion</b> Even though I have finished this project, I would still like to pursue it in the future. I would love to build a full size generator and actually install it in my home so I could use the power for actual jobs and different applications. I would love to use the high pressure of the water coming into my house to produce a large amount of power. I would also like to learn how this power could be stored.	
<b>Summary Statement</b> Utilize household water to create household electricity	
<b>Help Received</b> Grandfather guided me to correctly build generator; Clyde Carpenter provided materials and improved design for generator	