

CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

Name(s) **Project Number** Jonah F. Li-Paz 31658 **Project Title Power Shower: Home Hydropower Abstract** Objectives/Goals The purpose of this experiment was to discover whether I could produce electricity ut 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. Methods/Materials I built a hydropower unit (after several failed attempts and ran two asid 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 arden hose. The RPM was about 350. The voltmeter read about 0.03 V. Materials Used: Styrofoam Cylinder; Plastic Spoops (x8); Dovel; Glue Gun; Template; Marking Pen; Plastic Container; Thread Rod; 5 Hex Nuts; Glue Gin: Multi meth; 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. **Results** 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. **Conclusions/Discussion** 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 horse 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 lead how this power could be stored. Summary Statement

Help Received

Utilize bousehold w

Grandfather guided me to correctly build generator; Clyde Carpenter provided materials and improved design for generator

er to create household electricity