



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

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Project Title Hydro Energy	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals TO PROVE THAT THE HIGHER THE FALL OF WATER, ASSUMING THE SAME FLOW OF WATER, THE MORE ELECTRICITY IS GENERATED.</p> <p>Methods/Materials I USED THE FOLLOWING MATERIALS: SMALL GENERATOR, TUNA CAN, BOX CUTTER, MEASURING TAPE, DRILL, VOLTAGE METER, LADDER, 10 FT 1/2 INCH PVC PIPE, PIPE CUTTER, SUMP PUMP, SOURCE OF WATER (POOL OR JACUZZI), STOPWATCH, BEACH BUCKET, 2 LITRE SODA BOTTLE, EXTENSION CORD OUTLET. I PERFORMED THE FOLLOWING PROCEDURES: 1. FIRST MAKE A WATER WHEEL USING AN EMPTY TUNA CAN. ON THE SIDES, CUT OUT 8 SLOTS ABOUT 1 INCH APART TO LOOK LIKE A WATER WHEEL. ATTACH IT TO THE GENERATOR. 2. TAKE A 2 LITRE SODA BOTTLE AND FILL IT UP WITH WATER. DUMP THAT WATER INTO YOUR BEACH BUCKET. CONTINUE TO DO SO UNTIL THE BUCKET IS FULL, COUNT THE # OF TIMES A FULL BOTTLE WAS DUMPED INTO THE BUCKET. TAKE THIS #, MULTIPLY IT BY 2, (2 LITRE BOTTLE). TAKE THE AMOUNT OF LITRES AND DIVIDE IT BY 3.7 TO CALCULATE THE GALLONS IN BUCKET. 3. RECORD THE FLOW OF THE WATER. GET THE 10FT PIPE, A LADDER, AND A SUMP PUMP. PLACE THE SUMP PUMP HOSE INTO THE PIPE. NEXT GET THE STOPWATCH AND THE BUCKET. ATTACH SUMP PUMP. START PUMPING THE WATER AND PRESS START ON STOPWATCH. PRESS STOP ON STOPWATCH WHEN THE WATER COMPLETELY FILLS THE BUCKET. RECORD THE TIME. 4 .FIND OUT HOW MUCH ELECTRICITY THE 10 FT. PIPE PRODUCES. USE SUMP PUMP, EXTENSION CORD, POOL, LADDER, GENERATOR WITH ATTACHED WATER WHEEL 10 FT. PIPE, AND VOLT METER. PUT THE SUMP PUMP INTO THE POOL, PLUG SUMP PUMP INTO OUTLET. PLACE LADDER NEAR THE POOL SO THAT THE WATER BEING PUMPED WILL FLOW BACK INTO POOL. STAND ON THE TOP OF THE LADDER, WHILE HOLDING THE 10FT. PIPE AND ATTACHED SUMP PUMP. STAND AT THE BOTTOM OF THE PIPE WITH THE GENERATOR, WATER WHEEL, AND THE VOLTMETER AND MEASURE THE ELECTRICITY. 5. DO THE SAME PROCEDURE FOR A 5FT AND 2.5 FT PIPE.</p> <p>Results OVERALL, THE 10 FT. PIPE PRODUCED THE MOST ELECTRICITY, THE 2.5 FT. PIPE</p>	
Summary Statement TO SHOW THE HIGHER THE FALL OF WATER, GIVEN A CONSTANT FLOW OF WATER, THE MORE ELECTRICITY IS PRODUCED.	
Help Received DAD HELPED WITH EXPERIMENT	