



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Stephanie M. Rowe</b>	<b>Project Number</b>  22362
<b>Project Title</b> <b>The Best Alkaline Battery for Mechanical Energy</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of the experiment was to determine which medium priced, non-rechargeable, D cell alkaline battery made the most mechanical energy. Based on my study of battery advertisements, my hypothesis was that the Energizer battery would make the most mechanical energy.</p> <p><b>Methods/Materials</b> The experiment involved testing six medium priced batteries. A motor was made to raise a one grt weight. The time and distance the weight was raised were measured. The test was repeated five times for each battery. The power and value of each battery was calculated.</p> <p><b>Results</b> The average power ranged from 0.071 ftlb/min to 0.083 ftlb/min. The average value of power generated ranged from 0.038 ftlb/min\$ to 0.083 ftlb/min\$.</p> <p><b>Conclusions/Discussion</b> The data proved my hypothesis was correct, the Energizer battery made the most power at 0.083 ftlb/min. The Eveready battery was the best value at 0.083 ftlb/min\$. To make the most power for an appliance or a toy, the Energizer battery should be purchased. A thrifty consumer would buy an Eveready battery since it made the second highest amount of power, but was the best value based on its lower cost.</p>	
<b>Summary Statement</b> The project tested medium priced, non-rechargeable, D cell alkaline batteries to determine which one made the most mechanical energy.	
<b>Help Received</b> Greg Rowe (father) helped building display, bending wires for motor, starting and stopping the motor for the tests, using Word and Excel, and explaining research material.	