



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Emile G. Ayoub	Project Number J1101
Project Title Do We Get What We Pay For?	
Abstract Objectives/Goals To compare the price of each battery by analyzing the cost per one hour of lifetime. Methods/Materials 18x6.5 piece of wood , Hammer, 9 nails, 9 Mini ScREW lamp bases, Soldering tool, Soldering wire, 9v Battery Snap Connectors, 9 Screw Base Lamps, 9 Different 9v Batteries, Hot glue gun, Watch. Results The following are the best to least efficient batteries in comparing the cost per one hour of lifetime: Energizer Max, Eveready, Rayovac, Duracell, Panasonic, Energizer and Maxell, Sanyo and with the least efficient ,Duracell Ultra. Conclusions/Discussion Even though my hypothesis was incorrect, I was surprised to find that Duracell and Duracell Ultra did not do as well as I had thought they would have done. Duracell was actually better than Duracell Ultra. Then by doing some background research, I found that these two batteries had the amazing ability to recharge. After that I found that the two Duracells recharged for a very long time. I had interpreted that Maxell would stay for the longest period of time, but I was wrong. The battery that stayed the longest was Energizer Max. Although the results show Duracell Ultra as the least efficient, the fact that Duracell recharged repeatedly would make it difficult to conclude that it is costly for its performance on the different batteries, allowing the consumer to select the best buy for his/her bucks.	
Summary Statement My project is to test which batteries produce electricity for the longest time and if that battery deserves what the consumer paid for its cost.	
Help Received Dad helped to solder wires	