



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Jun S. Wema	Project Number J0617
Project Title Battery That Makes Cents	
Abstract Objectives/Goals To find out what coin works as the best battery and if size and material affects the amount of produced electricity. Methods/Materials I stacked a penny under a small square 1cm x 1cm soaked in a vinegar-salt solution and the next coin (quarter, dime, or nickel) alternating each one so I have the same number of coins and paper towel for each stack. I will be using pennies, quarters, dimes, nickels, vinegar (any kind, 1/4c), salt (1 tbsp.), multimeter (any kind that reads mA and mV.), paper towels, a bowl or container, and a pair of scissors for my experimenting. Results The quarters with pennies worked better than the dimes and nickels with pennies. The quarters and dimes are made of the same material with same percentage which was 92% copper and 15% nickel while the nickel was made of 75% nickel and 15% copper and produced the least amount of electricity. Conclusions/Discussion I said before that I wanted to know if size and material affects the amount of produced electricity and it does. The dime is smaller in diameter compared to the nickel but it had a larger amount of produced electricity because it had a high percentage of copper and the nickel had a small amount of copper. This proves to me that size and material does affect the amount of electricity.	
Summary Statement To find out if size and material affects the amount of electricity the coins will produce.	
Help Received Mother helped decorate the display board.	