CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)
Caroline I. Cox

Project Number
J0508

Project Title
Electricity You Can Eat

Abstract

Objectives/Goals
The objective of this investigation was to discover if a cell phone battery could be charged on the energy produced by fruit for an hour.

Methods/Materials
The fruits were all cut into smaller pieces (except the mandarins - they were too small) the apples were cut into fourths, and the limes, lemons, and bananas were cut into halves. The investigator measured the amps and volts in each piece of fruit by inserting a zinc nail and a copper nail into it and attaching the alligator clips of the galvanometer to them, recording the number of milliamps, converting them to amps, and repeating with the voltmeter. This was done to every piece of fruit.

Results
The results of the collected data and calculations showed that to charge a cell phone battery for an hour on fruit, twelve apples, eighteen lemons, twenty-three limes, thirty-six bananas, or 475 mandarins would be needed to accomplish the task. The investigator succeeded in reaching the goal of discovering if a cell phone battery could be charged on the energy produced by fruit for an hour.

Conclusions/Discussion
The investigator#s hypothesis was correct and the objective was attained. With this knowledge, cell phone batteries can be charged using fruit, which is potentially less expensive than using a wall socket.

Summary Statement
This investigation centers on the ability of fruit to charge a cell phone battery for an hour.

Help Received
The investigator borrowed a zinc nail, copper nail, a galvanometer, and a voltmeater from Mr. Noble, a science teacher at Pleasant Valley Elementary School.