



CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

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Project Title
Calling = Electric Power

Abstract

Objectives/Goals
The purpose is to capture radiating energy, convert it into electricity, store the energy, and be used to light up a LED without using any external power source.

Methods/Materials
1. Germanium diode; 2. LED ; 3. Copper Wire; 4. Platform; 6. Ruler; 7. GSM phone.

1. Construct the circuit that will capture the mobile phone waves sent from it. 2. The circuit is made out of copper wire to capture energy: a germanium diode to make sure the current goes in one direction, and an LED to show the energy. 3. Stretch the copper wire on a flat surface into a square loop of 7.5 x 7.5 cm and build the circuit with copper wire, diode, and LED. 4. Run the application or any other variable planned to be used and wait. 5. See how long the LED lights up if it lights up at all. 6. Then record results, time, and observations down of the LED glowing. 7. Repeat step 7 for other phone activities that needs network link. 8. Compare results and from data to see when LED glowed the longest.

Results
This table shows which cellphone activities light up the LED or not.

Short Text	Long Text	Maps	Videos on YouTube	Browsing the app market	Calling	Sending e-mails
Yes	Yes	Yes*	Yes	Yes	No	Yes*
Yes	Yes	No	Yes	Yes	No	No
No	Yes	Yes	Yes	No	No	No
No	Yes	Yes	No	Yes	No	No
Yes	Yes	No	Yes	Yes	No	Yes
Yes	No	Yes	No	No	No	Yes
Yes	Yes	Yes	Yes	Yes	Yes	No

Conclusions/Discussion
After much time researching, experimenting, and trials, the LED finally glowed without using any external source but the radio waves emitting from the cellphone. Eventually the experiment was successful, but could not measure the voltage during the cell phone activity, though the LED was glowing.
The original idea was to measure the electricity, but this could not be done due to lack of time and resources.

Summary Statement
The project is about glowing a LED without any external electric power source.

Help Received
Dad helped in soldering circuit and getting the necessary components for the experiment.