



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Izzah Kamran	Project Number J0210
Project Title Solar Roller: An Efficient Solar Device	
Abstract Objectives/Goals The purpose of this project is to test whether a rotating solar device (Solar Roller) will absorb more energy than a stationary solar panel or a solar tracker. I became very interested in solar energy since I found out that solar energy is the newest and most abundant supply of energy. I wanted to find a way to maximize the amount of energy from the sun absorbed and to reduce the footprint. Methods/Materials After building the stationary solar panels, the solar tracker, and the Solar Roller and connecting the wires with the battery holders, place the structures in a spot that allows them to absorb the sun's energy. Measure, record, and place the batteries in the holders and turn on all structures. After leaving the structures in the sun for 9 hours, measure and record the energy in the batteries. Results The Solar Roller collected an average of 29.38% more energy than the initial energy in the batteries before the experiment. The stationary solar panels and the solar tracker collected an average of 3.29% and 7.76%, respectively. After subtracting the energy used by the solar tracker and the Roller, they collected -0.09% and 17.67%, respectively. Conclusions/Discussion The Roller collected about 6x the stationary solar panel did. The Roller collected more energy because the kinetic energy from the spinning produced heat which warmed up the wires. Since the wires were hotter, the electrons moved faster, allowing more energy to be absorbed.	
Summary Statement The purpose of this project is to test whether a rotating solar device (Solar Roller) will absorb more energy than a stationary solar panel or a solar tracker.	
Help Received I got help from my teacher for building the devices.	