



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Kelley J. Kramer	Project Number J1019
Project Title Solar Cells in Motion	
Abstract Objectives/Goals The objective is to determine how the angle of the sun affects the ability of a solar cell to collect energy. Methods/Materials A solar landscape light was used as a solar cell and placed six inches from a 100 watt UV light bulb that represented the sun. An amperage meter was connected to the solar cell to measure the current at the solar cell. The light bulb could be moved from 0° to 90° at 15° intervals. Results Five trials were conducted at each interval (0°, 15°, 30°, 45°, 60°, 75°, and 90°) and the current was measured for each angle. The average of the five trials was recorded. The results showed that when the light source was at a 0° angle from the solar cell, the current measured 3.71mA. As the angle increased the current decreased to .02mA at 90°. Conclusions/Discussion As the angle of the sun to the solar cell increases, the ability of the solar cell to collect the sun's energy decreases. Once the light is at an angle greater than 45° then the energy at the solar cell is reduced by 37%. If the solar cell cannot track the sun, then at what angle/reduction is a fixed solar cell a viable option for producing electricity?	
Summary Statement My project is to investigate how the angle of the sun affects the ability of a solar cell to collect energy.	
Help Received Father helped with construction of board; Mr. Spandikow (science teacher) helped with inspiration.	