



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Taylor S. Davis	Project Number J0808
Project Title Amplifying Effects of Reflective Materials on Photovoltaic Cells	
Abstract Objectives/Goals My objective was to determine which reflective materials are the most effective in amplifying the energy output of a photovoltaic cell. Methods/Materials Eleven different reflective materials were tested by positioning them to reflect direct sunlight onto a solar cell. The solar cell was connected to a digital voltmeter. Direct sunlight on the solar cell was used as the experimental control. Each material was tested at the same time of the day, twelve inches away from the solar cell and at the same angle to keep the results uniform. The voltage for each material was recorded in volts. All of the materials were tested three times a day on three different days. The results were all averaged. Results Out of the 11 materials I used, the Mylar and the mirror consistently tested higher than the other materials and each increased the average energy output by 2.56%. All of the metallic materials performed with a significantly higher reading than the nonmetallic materials. The glass tile had no effect. Conclusions/Discussion I conclude that the best materials to use for increasing the energy output of a photovoltaic cell are mirrors and Mylar. I can also conclude that metals are good reflectors and could also be used to increase solar energy.	
Summary Statement My project is to determine which reflective materials will be the most effective in increasing the energy output of a solar cell.	
Help Received Mother helped me collect materials and put together my presentation board. My advisor/teacher explained the experimental process.	