



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Sierra E. LeBeau</b>	<b>Project Number</b> <b>J1314</b>
<b>Project Title</b> <b>Which Material Collects the Most Solar Energy?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to determine which material (black paint, tin or cement) collects the most solar energy and if the materials could be used for an alternative renewable energy resource. <b>Methods/Materials</b> I got 4 cardboard boxes and lined the sides and bottom of each with extra cardboard. I used hot glue to attach foil to the bottom of each box. Then I sprayed one box with black paint, put a sheet of tin in the other box and a cement brick in the third box. I placed a thermometer in each box and using duct tape, I sealed each box with plastic wrap. I placed all three boxes in the sunlight at an angle so they were directly facing the sun's rays. Lastly, I performed 10 trials in which I recorded the temperature change every 2 minutes for 10 minutes. <b>Results</b> The temperature in the box with the black paint increased the most by an average of 47 degrees F. The temperature in the box with the tin increased by an average of 41.7 degrees F and the temperature in the box with the cement increased the least with an average of 32.7 degrees F. <b>Conclusions/Discussion</b> My results showed that when comparing these three materials (black paint, tin and cement), black paint absorbs the most solar energy and would be the best choice for a renewable energy resource.	
<b>Summary Statement</b> My project is about determining which material (black paint, tin or cement) absorbs the most solar energy and therefore, would be the best choice for an alternative renewable energy source.	
<b>Help Received</b> Mother helped proofread and correct typed mistakes; My science teacher, Susan Wright, helped me edit my project.	