



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> Nathaniel B. Tweed	<b>Project Number</b> <b>J1131</b>
<b>Project Title</b> Clean Water for a Thirsty Third World	
<b>Abstract</b> <b>Objectives/Goals</b> If you fill a bottle with bad water and use the sun to heat it up, you can kill the bacteria that can make us sick. This can also be a tool for those who don't have good drinking water. <b>Methods/Materials</b> Three solar ovens were made from cardboard, foil, and tape because outside temperatures were low. Four bottles were filled with sump water. I spray painted one bottle all black, one half black, and left two clear. One of the clear bottles was called control because it would not be in the sun. After that three of the bottles were put in the sun to see which would get to 149 degrees for two minutes. Then the water was swabbed onto agar plates to see which had the least growth. <b>Results</b> The water in the all black bottle reached 168 degrees in just two hours. It had the highest temperature and also had the fewest growths on the agar plate. <b>Conclusions/Discussion</b> My conclusion is that some of the bacteria is killed by using the sun and common items we use today.	
<b>Summary Statement</b> My project is about how to pasteurize water, using common items, to make the water drinkable.	
<b>Help Received</b> Dad helped brainstorm ideas and was my safety guide. Mom proofread my report. Miss. Gibson coached me on my display board	