



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <p align="center"><b>Arthur J. Clark</b></p>	<b>Project Number</b>  <p align="right">29892</p>																				
<b>Project Title</b> <p align="center"><b>Wave Power</b></p>																					
<p align="center"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The goal is to convert ocean waves into electricity and make more energy then solar panels.</p> <p><b>Methods/Materials</b></p> <table border="0"> <tr> <td>1 Boogie Board (Styrofoam board)</td> <td>1 Flat wood board</td> </tr> <tr> <td>A shake up flashlight</td> <td>1 Screw</td> </tr> <tr> <td>Water</td> <td>2 dowels</td> </tr> <tr> <td>2 insulated wires</td> <td>1 Marker (red)</td> </tr> <tr> <td>Water sealant (putty)</td> <td>1 Compass</td> </tr> <tr> <td>Voltmeter</td> <td>Super glue</td> </tr> <tr> <td>Pencil</td> <td>1 Rope</td> </tr> <tr> <td>Measuring tape</td> <td>1 Metal pipe</td> </tr> <tr> <td>String</td> <td>1 Tub, (32# long x 8 1/2# wide x 18# high)</td> </tr> <tr> <td>Duct tape</td> <td></td> </tr> </table> <p><b>Results</b> My results were that the wave machine did make more power then the solar panel, but I did not know if the power of the Swell fuel machine was hourly or something else.</p> <p><b>Conclusions/Discussion</b> In my experiment, the results seem to be random. If someone tries this experiment they probably couldn't get my results, because waves are unpredictable, unless you use one of those wave-making machines. I found out that the board did not correlate with the angles because I had to make the waves and then quickly look at the angle. When I was making the waves, the board kept hitting my wave maker (which is the wooden board and dowel) causing it to go back and forth instead of up and down. This caused the light to move in the way it wasn't supposed to, which means I should have put the light vertical instead of horizontal on the board. For now, I proved my hypothesis because I did some calculations that showed wave power makes more energy then solar power. Solar made 155 watts, (How stuff works) while a wave power machine can make 900 watts per hour (Swell fuel). I think this machine will be the partial answer to our future energy needs and that it has great potential because there is a lot of power in the ocean. This experiment is important because it's clean energy, waves are plentiful through out the world, and the machine won't get in the way of construction as solar panels would. The machine can be moved to different places and it can work 24 hours, seven days a week. It can work in stormy or sunny weather. We depend on energy so much these days and this is another way to make energy that is clean and does not</p>		1 Boogie Board (Styrofoam board)	1 Flat wood board	A shake up flashlight	1 Screw	Water	2 dowels	2 insulated wires	1 Marker (red)	Water sealant (putty)	1 Compass	Voltmeter	Super glue	Pencil	1 Rope	Measuring tape	1 Metal pipe	String	1 Tub, (32# long x 8 1/2# wide x 18# high)	Duct tape	
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<b>Summary Statement</b> <p>My project is about finding new ways to use renewable energy sources.</p>																					
<b>Help Received</b> <p>Father helped editing and calculations, phone conversation with original inventor( Christopher Olson )</p>																					