



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

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<b>Project Title</b> <b>Circuitry</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> I will investigate how connecting devices ( 3 light bulbs) in parallel affect the electric current in a circuit.</p> <p><b>Methods/Materials</b> Method: 1) Attach voltage meter to a board and use this as a brightness tester. 2) Make a parallel curcuit by connecting two flashlight bulbs to a 1.5 V battery and measure the voltage with the meter. 3) Continue to add more bulbs (resistance) to the curcuit and compare any change in voltage. Record observations.4) Disconnect one bulb in the parallel circuit and measure any change in voltage. Materials: One piece of 6" by 12" wood board. Light bulbs(1.5 V) (4). Battery (1.5 V) (1). Voltage Meter. Pieces of insulated wire, each about 10 cm long (8). Battery holder. Minibulb sockets (4).</p> <p><b>Results</b> As I added more light bulbs (resistance) to the circuit, the voltage on the meter became weaker. I also observed that the brightness of the bulbs got dimmer. When I disconnected one bulb from the circuit, the rest of the bulbs stayed lit and got brighter.</p> <p><b>Conclusions/Discussion</b> When the resistance in a parallel circuit increases, the current decreases. When one bulb is disconnected, the circuit continues to work. Parallel circuits are used in homes and schools so that if one part of the building looses electricity the rest of the building will still have eletricity.</p>	
<b>Summary Statement</b> The current in a parallel circuit changes when more than one light bulb is connected to it.	
<b>Help Received</b> My mom helped me type this report. She also helped me buy the materials. My Dad helped me wire the board and my Science teacher, Ms. Coward gave me advice to improve my results.	