



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Wayne L. Jackson	Project Number S0708
Project Title Hydrogen Fuel Cells	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of the project was to conduct internet research and laboratory experimentation to study the theoretical principles behind fuel cells and their practical applications.</p> <p>Methods/Materials Experiments were done to determine the:</p> <ol style="list-style-type: none">Characteristic curve of a fuel cell;Faraday efficiency and energy efficiency of the fuel cell;Impact of catalyst concentration on the characteristic curve of the fuel cell;Impact of gas input on the characteristic curve of the fuel cell; andImpact of total resistance on the characteristic curve of the fuel cell. <p>Results The significant findings were as under:</p> <ol style="list-style-type: none">Fuel cells are efficient.Fuel cells are clean.Fuel cells are quiet.Fuel cells are modular.Fuel cells are environmentally safe. <p>Conclusions/Discussion As our demand for electrical power grows, it becomes increasingly urgent to find new ways of meeting it both responsibly and safely. In the past, the limiting factors of renewable energy have been the storage and transport of that energy. With the use of fuel cells and hydrogen technology, electrical power from renewable energy sources can be delivered where and when required, cleanly, efficiently and in a sustained manner.</p>	
Summary Statement The project is about Hydrogen Fuel Cells which can produce portable electrical power from hydrogen and oxygen.	
Help Received This project was conducted under the guidance of Mr. Bindra. He obtained the equipment required for this project, guided me in doing laboratory experiments, and writing the project report.	