



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Remington J. Rebeil	Project Number J1127
Project Title Is UVA and UVB Electromagnetic Radiation Blocked or Filtered Out by Automobile Windshields?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project is to investigate whether ultraviolet radiation (UVA and UVB) are blocked or filtered out by windshields of modern automobiles (2000-2006). These wave lengths are dangerous to humans because they can cause photo-aging damage and cancers.</p> <p>Methods/Materials Ultraviolet Light Meter- UV Hawk 1 Various Car Windshields Clock Compass</p> <p>Twenty three vehicles were selected from nine various models of modern automobiles. These were from nine different manufactures and five different countries. These automobiles were selected for testing of UVA and UVB radiation through the windshields. A UV meter was employed to read solar-noon hour radiation over a period of one week. Five non-modern cars (1946-1958) were tested for comparison.</p> <p>Results Ultraviolet radiation was blocked and filtered out by all nine vehicle windshields in twenty-three tests. There was no UVA or UVB radiation coming through in any of the modern vehicles tested.</p> <p>Conclusions/Discussion Ultraviolet radiation was blocked and filtered out by all nine vehicle windshields in twenty-three tests total. (Model Years: 2000-2006) Modern automobiles were chosen because of their availability and new technology. Older vehicles from the 1940's and 1950's that were tested for comparison had UVA and UVB radiation that filtered through the windshields. It is reasonable to assume that all modern vehicles block out UVA and UVB radiation through the windshields and protects the passengers from dangerous UVA and UVB radiation.</p>	
Summary Statement To determine if UVA and UVB radiation penetrates through modern automobile windshields.	
Help Received Grandfather helped to locate automobiles and drive to specific location; Mother helped with lettering board title.	