



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) April R. Gadsby	Project Number J1606
Project Title Light Curve of a Binary System	
Abstract Objectives/Goals To determine if you can tell from a light curve if a variable star is a binary system. Methods/Materials I used the Muhlenberg Observatory 35m telescope to take images of the binary system UNSW-V-444. I then documented the intensity, magnitude, and correlated it to the time the image was taken. This data was used to develop the systems light curve. I then compared my light curve to light curves of known binary systems. Results My lightcurve and the lightcurve of the known binary stars followed the similar part of large fluxuation, smaller fluxuations, and then large fluxuation. Conclusions/Discussion Because the graphs followed a similar pattern, UNSW-V-444 was proven to be an eclipsing binary system. I concluded that by using this method an astronomer can figure out if a variable star is a binary system.	
Summary Statement How an astronomer can tell from a lightcurve whether or not a variable star is a binary system.	
Help Received Kim Miller helped me make contact with astronomers; Dr. Marton Hidas helped me find a system to observe; Dr. Rachel Street, Dr. Jessica Barton, and Dr. Hidas gave me time on the telescope and helped me learn how to use the telescope,	