



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Lucas C. Miller	Project Number J1017
Project Title Retinal Glare Recovery	
Objectives/Goals My project was to determine what factors affected the retinal glare recovery test. This test glares the retina with a bright light and measures the retina's ability to recover vision again in time. I had originally hypothesized that eye color, skin color, and age would affect the rate of retinal glare recovery.	
Abstract My project was to determine what factors affected the retinal glare recovery test. This test glares the retina with a bright light and measures the retina's ability to recover vision again in time. I had originally hypothesized that eye color, skin color, and age would affect the rate of retinal glare recovery.	
Methods/Materials I used a special visual acuity card with difficult low contrast letters (the SKILL card), pupil size measurer, a luminance box, and a watch to test the retinal recovery time from glare.	
Results Pupil size had no correlations. Eye color showed that the lighter the eye color, the better the recovery time, which was against my hypotheses. During testing, I noticed that some family members had results near each other, so I added that as one of my variables.	
Conclusions/Discussion My observation that some children had results that were the same as one parent but not the other had never before been noted by scientists or doctors. This test has been used for diagnosing retinal diseases or the toxic effects from certain drugs. My observation of clusters within families is unusual because doctors had only examined individual patients. Examining families was simply my way of getting more subjects. That is why my observations were unique. My testing of families may lead to a less expensive test for retinal genetic links than bio-chemical tests for predicting retinal problems later in life. I conclude that my appreciation of the family clusters was more important than my original hypothesis where results were mixed. I have learned that this type of observation is the way many important discoveries are made in science.	
Summary Statement My project was to determine what factors affect retinal glare recovery.	
Help Received Dr. Jampolsky (Grandpa) helped edit papers.	