



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Nathan S. Nambiar	Science Fair Use Only <h1 style="margin: 0;">J1526</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) What Color Has the Largest Field of Vision?	Division <u>X</u> Junior (6-8) _ Senior (9-12)
Preferred Category (See page 5 for descriptions.) 15 - Physiology	
Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p>Objective: The objective of my project was to determine which color, blue, green, red, or yellow has the widest peripheral visual field. I believe that (decreasing in order, starting with the largest visual field) the results will be yellow, blue, red, and lastly green.</p> <p>Materials and Methods: Four round six mm. test objects of pure, blue, green, red, and yellow colors were used. Each color was brought in along a perimeter* at 45 degree increments for a full 360 degrees of each subjects peripheral vision. The subject fixated at a point straight ahead and stated when a color came into sight. A correct response was recorded at the degree at which it was seen.</p> <p>Results: The 20-37 year-old age group confirmed my hypothesis. In the youngest, 5-19 year-old age group, yellow had the largest visual field followed by blue, then green, and red being the smallest. The oldest age group, 38-55, had yellow as the largest field and green as the smallest. However, the blue field was smaller than expected and was equal to that of the red field. Overall the youngest age group had the largest field for all colors and the oldest age group had the smallest field for all colors, the middle group was between the other two.</p> <p>Conclusions: The order and the size of the visual fields for the four colors, blue, green, red, and yellow, varies among different age groups. This was a surprising finding. Red appeared to be most difficult to see in the youngest age group. The blue field was decreased in size in the oldest age group and this was most likely due to pre-cataract lens changes in the eye although cataracts were not seen clinically.</p> <p>*Old ophthalmic instrument used to measure visual fields in the past. It is rarely used today.</p>	
Summary Statement (In one sentence, state what your project is about.) Which color, red, yellow, green, or blue, had the widest field of vision?	
Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Mother (ophthalmologist) trained me in visual field testing and supervised the project; Dr. Shouten lent me his perimeter.	