



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Chase D. Hagen	Project Number S0208
Project Title UV-Proof Clothing	
Objectives/Goals The purpose of this project is to identify materials with the ability to absorb UV rays more efficiently to offer better UV protection than clothing currently available.	
Abstract The purpose of this project is to identify materials with the ability to absorb UV rays more efficiently to offer better UV protection than clothing currently available.	
Methods/Materials Microscope Green: 60% cotton, 40% polyester (0.4mm), 0.25 Yd Blue & White: 100% cotton (0.1 mm), 0.25 Yd Red 100% nylon (0.1mm), 0.25 Yd Brown: 58% polyester, 40% rayon, 2% other (0.5mm), 0.25 Yd Black: 38% polyester, 24% nylon, 38% metallic (0.1mm), 0.25 Yd Purple 100% cotton (0.2mm), 0.25 Yd Blue & Green: 65% polyester, 35% cotton (0.2mm), 0.25 Yd Silver 100% acetate (0.1mm), 0.25 Yd Red & White: 54% linen, 43% Rayon, 3% spandex (0.3mm), 0.25 Yd Navy Blue: 100% linen (0.4mm) 0.25 Yd Pasco GLX Explorer Pasco UVA Sensor for Pasco GLX Explorer Mini-USB to USB Connector Cable Fine Caliper with #mm# measurements Digital Camera Computer (PC or Mac) with Pasco DataStudio# V. 1.7 or higher 3 Fluorescent Bulbs: Exo-Terra Reptile Glow 5.0 (5% UVB, 30% UVA), Exo-Terra Reptile Glow 8.0 (8% UVB, 33% UVA, # Hagen T5HO #Marine Glo# 20 W; fluorescent lighting fixture Tested the materials were also tested against the sun for more accurate results.	
Results Graphs detail the exact results for each material. See conclusion for explanation of results.	
Conclusions/Discussion After testing all the materials and comparing the data results I determined that my initial hypothesis was partially correct. Polyester any Nylon materials do protect better against UV rays than normal clothing, which is usually made out of cotton. However I discovered that fabrics containing large amounts of the fiber Rayon are more efficient and protecting against UV rays than Polyester and Nylon materials.	
Summary Statement Finding the best fabric to protect against UV rays.	
Help Received	