CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
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Project Number
29270

Project Title
Which Sunscreen Protects the Most?

Abstract

Objectives/Goals
The objective is to investigate if there are differences in protection against Ultraviolet (UV) rays in sunscreens. I believe that Coppertone Sport SPF 50 would give the best protection.

Methods/Materials
Six different brands of sunscreens were selected. Each sunscreen was tested at set times, dates, and at the same location. The testing was repeated for five consecutive days. An UV monitor was used to measure the UV level.

Results
The results of this project were very surprising. It was Banana Boat Sport SPF 50, Hawaiian Tropic Sheer Touch SPF 50, and Walgreens with Parsol 1789 SPF 50 that provided the most protection. The UV levels were 0 for all the times and days of testing for those three sunscreens. The Huggies Little Swimmers SPF 50 had one bad reading while, Coppertone Sport SPF 50 and Pacific Sun Sport SPF 50 (Longs brand) consistently performed the worst.

Conclusions/Discussion
Unlike the hypothesis, Coppertone Sport SPF 50 did not give the best protection against UV rays. Surprisingly, it has the same active ingredients as the Walgreens with Parsol 1789 SPF 50. A major difference between the two is an inactive ingredient in the Walgreens sunscreen, aluminum starch octenylsuccinate. This inactive ingredient has been shown to increase SPF in sunscreens. The results and research suggest that sunscreens are not equal in performance. Both active and inactive ingredients affect UV protection. This project could be used to help people find a low cost, effective sunscreen.

Summary Statement
The purpose of my project was to investigate whether the brand of sunscreen and its ingredients affected the amount of UV rays blocked.

Help Received
Parents helped purchase materials for the project.