

Abstract

Project Title: UV Radiation Mitigation

Project ID:161

This experiment was about which fabric blocks UV rays the best. This project is important because UV radiation can cause severe illnesses such as skin cancer. It also causes very painful sunburns. The results of this experiment will show which fabric to wear when going outside. It is necessary to wear the right kind of fabric because sunscreen can't be applied everywhere. I became interested in this project when over the summer I saw people getting sunburns. I wondered how this happens and how it can be stopped. The six fabrics used were nylon, wool, polyester, linen, acrylic, and cotton. The hypothesis was that nylon would be the best fabric to use for protection against UV radiation. This experiment was performed using an UV meter and a UV flashlight. Originally, the Sun was going to be used but by the time all the necessary materials for this experiment were gathered there was not very much UV radiation outside. So a UV flashlight that gave out similar rays was utilized. A fabric was placed over the flashlight when it was turned on and then the UV meter was held up to the flashlight. The results of the experiment was that the hypothesis was not supported, the best fabric to use for protection against UV radiation is wool, it blocked all of the radiation. Three fabrics tied for second, cotton, polyester, and acrylic, they let through 0.5 out of 20 of the radiation. Linen is third as it let through an average of 1.4 radiation through. Finally the worst fabric to use for protection against UV radiation is nylon, is let through an average of 2.3. The conclusion was that, using a 5 by 5 inch black fabric, wool was the best fabric to use when protection against UV radiation is

needed, and nylon is the worst. This experiment had surprising results that will hopefully help many people.