

CWSF 2018 - Ottawa, Ontario



Sana Shams

Radioactivity vs. Fashion

Challenge: Discovery

Category: Intermediate

Region: South Fraser

City: Surrey, BC

School: Panorama Ridge Secondary School

Abstract: Radioactivity is all around us, and a high exposure of it can lead to biological damage. The only measure of protection we have from radioactivity are the fabrics we wear. In this project, different fabrics were tested to see which fabric offered the most protection from radioactive alpha decay. A relationship was formed that gives a sense of exposure to a potentially harmful radiation.

Biography

My name is Sana Shams, and I am a student at Panorama Ridge Secondary. I have a strong passion for learning as well as teaching what I am learning to others in order to discuss and learn from them. Mathematics and science are my favourite subjects to study, along with classic literature. Recently, a topic of interest for me was radioactivity, and how we are constantly exposed to potentially harmful radiation. This inspired my science fair project where I experimented and studied how the fabrics in our clothing can protect us from alpha particles, a type of radioactive decay. My project guided me with forming a relationship between the weaves/knits of the four fabrics I tested (organza, cotton, denim, polyester spandex blend). For the future, I'm looking to extend my investigation and test more fabrics, and instead of focusing on the weaves, I'd like to experiment on different fabrics with the same weaves to form a relationship with the material specifically, and the penetration rates of alpha particles. For other students thinking about doing a project, I strongly encourage them to study a topic that they are genuinely passionate about, and to try to do something original and fun!

Awards

Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 000