



## Colorado Science and Engineering Fair

## 2025 Individual Project Abstract Form

**Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.**

Title of Project: Radiation Safety First: The Life Saving Power of Radiation Shielding

Finalist's Name: Azucena Perez

School and City: Lamar Middle School, Lamar Colorado

Sponsor's Name: Ashley Roseberry

Category: Physics & Astronomy

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

My project is about radiation shielding and how each material I'm using blocks radiation. My hypothesis was if the material has more density then it will block more radiation particles than any other material. The materials I used were Carbon Foam, Aluminum, Polyethylene Foam, 1 cm sheet of Polyethylene, Silicone, and Cardboard. I used a geiger counter to measure the radiation. I put the radiation source, Americium-241, that was in a smoke detector, and the geiger counter 2 inches apart from each other. I put one of my materials between them and measured how much radiation the geiger counter counted, and I repeated this 5 more times. I found out that the 1 cm sheet of Polyethylene blocked the most radiation with the geiger counter only counting 95.3 Counts Per Minute (CPM). The material that blocked the least amount of radiation was Aluminum with 113.7 CPM.

*I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.*

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. **A signed copy of this form must be included in your notebook.**