



## 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: The Heat Is On: Testing Heat Resistant Materials

Finalist's Name: Ryker Monahan

School and City: Liberty School, Joes

Sponsor's Name: Linda Fogale

Category: Physics & Astronomy

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

The purpose of this project was to find the most heat resistant material possible to protect firefighters from extreme temperatures while fighting fires. It was conducted by cutting pieces of flame-resistant materials and putting them in the testing chamber. Then the torch was then turned on for one minute. The data was recorded at various times to find which material resisted and/or withstood the most heat. The material that did the best was the fire helmet: the most heat that entered through the helmet was 61.33 degrees Fahrenheit. The second most-resistant was fire shelter (a protective blanket): the most heat that got through was 164.27 degrees. The third most-resistant was bunker gear: the most heat that went through was 195.63 degrees. Finally the T-shirt, which served as the control, which allowed the most heat to get through and reach a temperature of 489.93 degrees Fahrenheit. From the results of this project, the data showed that fire protective gear is well suited for protecting firefighters from extreme temperatures and flames.

*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.**