



## 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 Human Body in Space

Finalist's Name: Abigail Lam

School and City: Flagstaff Academy Charter, Longmont

Sponsor's Name: Lori Lam

Category: Biomedical & Health Sciences

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

Space is one of the many mysteries of our universe and multiple questions are centered around it. One question in particular is what makes a spacesuit so important and what would happen to a person's body if it were to be completely exposed to the vacuum of space. The question for this experiment was focused on solving how the body reacted. This was done by taking a variety of different objects that are similar to human body parts. These different objects will then be tested using a vacuum chamber to see their reaction in a space-like simulator.

This project focuses on the effect that the vacuum chamber had on each object that was presented and compared it to the data that was found online. It was shown in a previous incident when a man's oxygen tube was detached from the spacesuit that the body will be affected in multiple ways. This includes the lungs, heart, circulatory system, etc.

This test was used using marshmallows, jello, grapes, tomatoes, and balloons to represent different parts of the body. After the reaction had occurred it was seemingly similar to the body part the object was representing. In the end, each object turned out to be very similar to the hypothesis other than the reaction that was expected for each object by itself. Although the body in space doesn't explode or freeze like the movies it still does have some extraordinary reactions.

*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.**