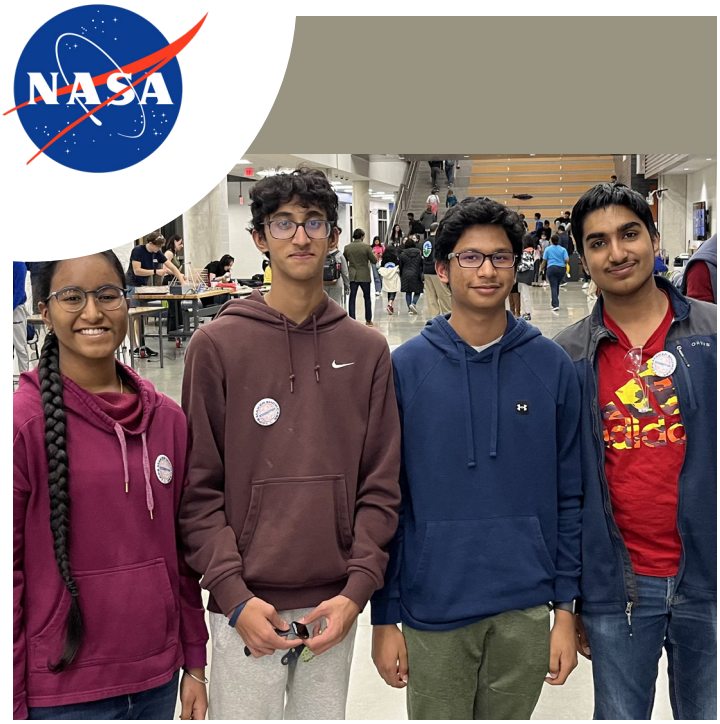

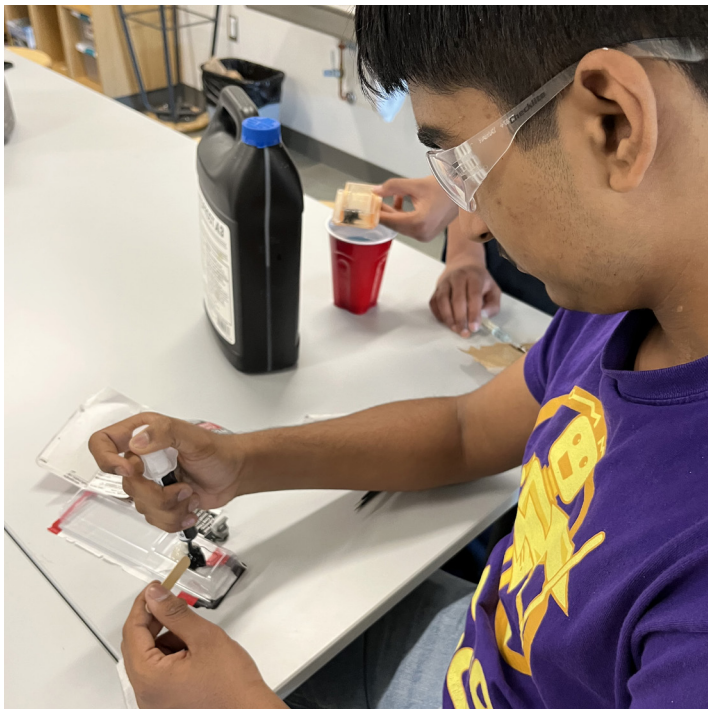

RADIATION SHIELDING: EFFECTIVENESS OF ALTERNATE MATERIALS

NASA TECHRISE STUDENT CHALLENGE

SCHOOL: THE ACADEMIES OF LOUDOUN

LOCATION: LEESBURG, VA

FLIGHT PROVIDER: AEROSTAR

GRADES: HIGH SCHOOL

STUDENT EXPERIMENT DESCRIPTION

The goal of our experiment is to test the effectiveness of various materials (Aluminum, Water, and High-Density Polyethylene (HDPE)) to guard against radiation damage. We hypothesize that HDPE will be most effective. Despite the lower density, high hydrogen content has carbon, which absorbs radiation, while oxygen does not. We were inspired by the many health complications that can occur due to damage from radiation exposure, such as cancer, tissue damage, DNA mutations, etc.