



Colorado Science and Engineering Fair

2024 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: Fly Away with Me: Designing More Aerodynamic Planes

Finalist's Name: Connor Knight

School and City: Corwin International Magnet School, Pueblo

Sponsor's Name: Chuck Moore

Category: Engineering (ENGR)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

The purpose of my experiment was to determine if wing surface area and aerodynamics could make a paper airplane fly a greater distance. I hypothesized that if I created a paper airplane with a streamlined design and large wing surface area, the distance it flew would be greater than other designs. The larger surface area of the wings would produce more lift, and the aerodynamic design would make the plane fly straighter.

The experiment involved creating five paper airplanes. The plane designs were labeled "Design A, Design B, Design C, Design D, and Design E." I created these designs based on my research. Each plane was thrown with the same amount of force, and the distance they traveled in the air was measured. 3 trials were performed for each group.

The data collected did support my original hypothesis. I found that Design D traveled the longest distance, an average of 443.6 centimeters. It also had a large wing surface area and flaps on the sides to keep it straight while flying. The next best design was Plane A, which flew an average of 361.5 centimeters. Design C flew the shortest distance, an average of 193.9 centimeters. It had little aerodynamics, its wings were average sized, and it kept turning, making its overall distance less.

These findings lead me to believe that designing planes with larger wings and more streamlined aerodynamics will make them fly farther. This information can be used by engineers to design more fuel-efficient planes for both government and commercial use.

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: Connor Knight

Date: 3-3-2024

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.