



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: Sail your ship to positivity: A comparison of sail shape and material

Finalist's Name: Sydney Curtis

School and City: Sargent Jr./Sr. High School, Monte Vista

Sponsor's Name: Terri Paulson

Category: Physics & Astronomy (PHYS)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

This project helps determine what type of sail shape and material will capture the wind most efficiently to propel a sailboat the fastest over a distance of 304.8 centimeters (10 feet). This was tested by taking three different materials (nylon, latex, ELS cotton) and making two sails out of each of the materials. The shapes of the sails were square and lateen.

During this project I tested each of the sails nine times, three times on each of the three levels of wind. The results of this project were calculated using the average of each of the three times to create an accurate average.

The results of this project indicate the square nylon sail averaged to have the fastest speed of 11.15 seconds, however on a larger scale these results may change. The results of this project support my hypothesis as I predicted that the square nylon sail would propel the boat the fastest.

The information in this project may benefit people who are seafarers, marine biologists, sailing enthusiasts, oceanographers, and deep sea divers. These people can use this information to further their ability to successfully navigate in open water.

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.