



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: WAX: NOT COOL DUDE

Finalist's Name: Ripley Goode

School and City: Boulder Country Day School, Boulder

Sponsor's Name: Karen Morton

Category: Earth & Environmental Sciences (EAEV)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

I love to surf, and I am concerned about the environment. Each time I prepare to surf, I rub surf wax on my board so that my feet stick to the surface. I know that a new layer of surf wax must be put on each time I go out, which means that it must be shedding off into the ocean, so I became concerned about the environmental impacts. I used the Allium Cepa test, where I put onion roots in different wax-water solutions, and then I observed how the onion roots were impacted. I tested both typical surf wax (paraffin based), and "environmentally friendly" surf wax (biodegradable). I also made my own wax, "Rips Grips", so that I could control the exact biodegradable ingredients.

In the test, I thought the paraffin waxes would cause damage to the roots, and the biodegradable waxes would be harmless. The test results were surprising, and my hypothesis was incorrect. The paraffin waxes did not greatly impact the health of the roots, however, the biodegradable waxes encased the roots and did a lot of damage. This raises questions about "environmentally safe" surf waxes and the immediate damage they might do to marine life.

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:

2-28-24

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.