



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: Mouthwash vs Bacteria

Finalist's Name: Cynthia Stevens

School and City: Risley International Academy of Innovation

Sponsor's Name: Bryan Wood

Category: Micro & Molecular Biology (MCRO)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

My reason for performing this experiment is to find out if mouthwash can kill 99.9% of the bacteria in your mouth like advertised. I chose to perform this experiment because I wanted to see if the mouthwash would work as claimed, and to see if it was killing the good bacteria.

To perform this experiment, I first collected samples from the inside of the subject's cheeks with a cotton swab on both sides. Next, I took the sample and swabbed it on a disinfected petri dish. Then, I had them rinse their mouths with one ounce of mouthwash for sixty seconds. After that, I collected another sample and swabbed it on another petri dish. Then I immediately sealed them off to prevent contamination and put them in a dark cabinet to incubate. I then checked the samples daily over the course of 2 weeks to monitor bacterial growth.

What I discovered performing this experiment is that the mouthwash did not kill 99.9% of bacteria. The mouthwash did kill a large portion of the bacteria but not all of it. I noticed the bacteria grew slower in most of the "clean" samples than in the "dirty" samples.

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: *Cynthia Stevens*

Date: *3-4-24*

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.