



# 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: Which Fuel is More Efficient

Finalist's Name: Collin Richardson

School and City: Wiggins Middle and High School, Wiggins

Sponsor's Name: Heather Richardson

Category: Chemistry (CHEM)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

Abstract:

Which Fuel is More Efficient?

Collin Richardson

The purpose of this project was to figure out how long each fuel can run. We are also getting temperatures to see what the evaporation rate of the fuel is and its effect on the fuel. I am using 85 octane, 87 octane, and 91 octane. I hypothesized that the 85 octane will run the longest because it has the smallest octane rate.

The experiment involved having the time and patience. It takes a lot of time to do this project. You will have to take temperatures of the ground, left engine, and right engine. then you will record all of your data. You will also time how long it takes for the engine to die.

The data collected did not support my hypothesis. The one fuel with the longest run time is the 91 octane. The average of the 91 octane was 54 min. the average of the 85 octane was 45 min and 7 sec.

These findings lead me to believe that higher octane fuel is faster than lower octane fuel. The 87 octane was faster than the 85 octane, but was slower than the 91 octane. I had fun in this project. If you ever do this project, I hope you have fun!

*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:

*Collin Richardson* Date: *3/14/24*

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.