CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
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Project Number
J0617

Project Title
Burning Biofuels

Abstract

Objectives/Goals
The goal of this project was to determine if the energy in renewable fuel is equivalent to the energy in the same amount of non-renewable fuel.

Methods/Materials
Measure the temperature change over time in water as it is heated using renewable fuel and non-renewable fuel. Using a ring stand, stop watch, thermometer, aluminum can, pipette, cotton cordage to absorb fuel, lighter, vegetable oil, and motor oil.

Results
The amount of energy in non-renewable fuel proved to be greater than the energy in the same amount of renewable fuel because the motor oil heated the water at a rate of .28 degrees (F)/s, while the vegetable oil heated the water at a rate of .21 degrees (F)/s. However, the motor oil was only greater by 7 hundredths of a degree per second.

Conclusions/Discussion
Repeated trials of non-renewable and renewable fuels show them to be comparable sources of energy, differing by output of 7 hundredths of a degree per second. This means that renewable fuels can provide a reasonable alternative to non-renewable fossil fuels.

Summary Statement
I found that the amount of energy in non-renewable fuel was greater than the energy in renewable fuel by only 7 hundredths of a degree(F) per second.

Help Received
I designed the project using ideas from the internet. My teacher helped me understand the details of science fair. I got help to conduct my experiment.