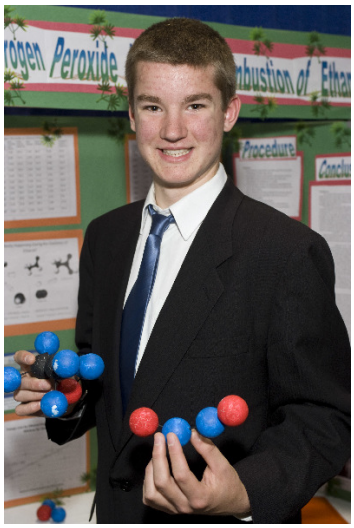
CWSF 2010 - Peterborough, Ontario



Karl Zimmermann

Can Hydrogen Peroxide Aid in the Efficiency of the Combustion of Ethanol?

Division: Physical & Mathematical Sciences
Category: Intermediate
Region: Algoma Rotary
City: Echo Bay, ON
School: Korah Collegiate & Vocational School

Abstract: This experiment tested to see if adding various concentrations of hydrogen peroxide to ethanol could increase the energy output during combustion. This is based on the oxidizing qualities of hydrogen peroxide, in the hopes of determining a more efficient version of the environmentally-friendly fuel, ethanol. The experiment was conducted using a calorimeter, and 11 different ratios of ethanol to hydrogen peroxide.

Biography
Currently in the pre-International Baccalaureate Program at Korah Collegiate in Sault Ste. Marie, Karl enjoys being active in his school, whether it is through student council, environmental commitees, sports teams, or the Duke of Edinburgh's Club. Outside of school, Karl enjoys cross-country ski racing and triathlon racing. He enjoys challenges, both academic and athletic, and prides himself in being able to design creative solutions to problems. Karl has always been interested in scientific inquiries and the environment. He loves being outdoors - hunting, fishing, kayaking, hiking, camping, and just walking in the forest. He plans on pursuing a career in environmental sciences.

Awards	Value
The University of Western Ontario Scholarship Bronze Medallist - $1000 Entrance Scholarship Sponsor: University of Western Ontario	$1 000
Bronze Medal - Environmental Innovation - Intermediate Sponsor: EnviroExpo, Presented by VIA Rail Canada	$300
Total	$1 300