

## CWSF 2017 - Regina, Saskatchewan



### Daphné Dupuis, Mya St Jean

#### Powered by Mud: Microbial Fuel Cells

- Challenge:** Energy  
**Category:** Intermediate  
**Region:** Algoma Rotary  
**City:** Sault Sainte Marie, ON, Sault Ste. Marie, ON  
**School:** Superior Heights Collegiate & Vocational School  
**Abstract:** Different organic and bioavailable substances were added to microbial fuel cells to determine which substance increased the voltage output of the cells. Each cell was tested for a period of time in a controlled environment. Our hypothesis was proven correct; that lactose or starch products would increase the voltage production from electrogenic bacteria. Flour was shown to be the most reliable and highest producing additive.

#### Biographies

Daphné - My name is Daphne Dupuis. I am 14 years old and in 9th grade at Superior Heights C&VS in Sault Ste Marie, Ontario. I am a competitive highland dancer and I also play recreational hockey. In my spare time, I like shopping with friends or going to the movies. I plan to attend university for an undergraduate degree in engineering, then possibly continue into law, medicine, or join my dad's hydroelectric engineering firm. I am currently enrolled in AP science and math classes which I am enjoying because I like a challenge. This is my second time attending CWSF and I am very excited to again represent the Algoma Region of Ontario. The inspiration ...

Mya - My name is Mya St Jean. I am in 9th grade, attending Superior Heights Collegiate and Vocational school. The inspiration for our project was from Geography class where we were taught how there is lots of poverty around the world which denies basic needs for people such as little or no electricity. Me and my partner decided to further our research for this problem and decided to improve Microbial Fuel Cells by adding different organic additives to increase the voltage output of the cells. For further investigation I would like to create larger Microbial Fuel Cells and try different additives. My advice to other students who are doing a project ...

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