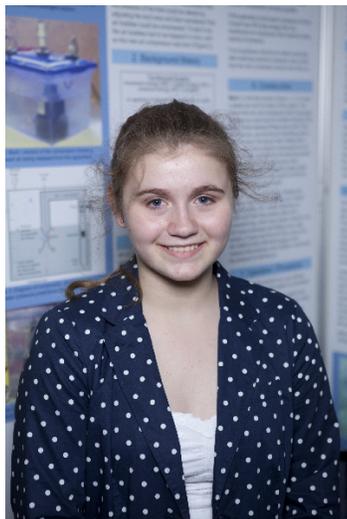


CWSF 2013 - Lethbridge, Alberta



Electra Millar

Under Pressure

Challenge: Energy

Category: Junior

Region: Sudbury

City: Sudbury, ON

School: Marymount Academy

Abstract: I designed a new type of air compressor that works with a circulation pump and venturi in a sealed container. The hypothesis was that there would be a maximum pressure attainable, observable through the absence of air bubbles flowing from the divergent section of the venturi. The hypothesis was proven. The maximum pressure attainable was 35 kPa and it can run on renewable energy.

Biography

My name is Electra Millar I was born on the 14th of February, 2000 in Truro, England. I moved to Canada from England about three years ago and I now live in a city called Sudbury. I attend Marymount Academy and I'm in grade eight. My interests include painting, drawing and reading and I plan on becoming an architect when I am older. The inspiration for my project came from the gurgling noise from a wine aerator which actually is an application of a venturi. For Science Fair I decided to investigate what else you could do with a venturi and I saw that people had made water jets that had bubbles in them. I was intrigued and eventually came across the idea that the water could compress the air bubbles, tried the idea, and it worked! In future, I would try to replace the pump inside the tank with a large flowing water source, then it would work with renewable energy. I would suggest that other students thinking about a project do it on do it on something they find interesting because it helps with motivation.

Awards

Value

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|---|---------|
| Excellence Award - Junior - Bronze Medal Sponsor: Youth Science Canada | \$100 |
| Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University | \$1 000 |
| Total | \$1 100 |