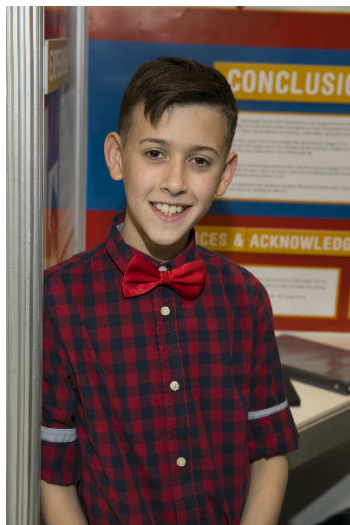


## CWSF 2017 - Regina, Saskatchewan



### Jackson Machtinger

#### Which Homemade Electromagnet Produces the Greatest Permeability?

**Challenge:** Energy

**Category:** Junior

**Region:** Toronto

**City:** Toronto, ON

**School:** Charles H. Best M.S.

**Abstract:** In my experiment I compared different combinations of materials used to make a homemade electromagnet. I found that it was a three way tie between nail #2, nail #3, and nail #4. These nails picked up the most staples, averaged from three readings each. These nails all used 12 volts, and thick copper wire.

#### Biography

I enjoy being involved in clubs at my school, including the Leadership Club and Eco-Schools. In these clubs we strive to make our school a better place. Eco-School projects include waste-reduction initiatives, and Leadership responsibilities include morning announcements and helping our teachers. Some of my hobbies and interests include drawing, reading, playing drums, playing Frisbee and competitive video gaming. I have also been going to overnight camp for the past 6 summers, where I get to live in a cabin with my friends (and councellors) and participate in fun activities such as rock climbing, paddle boarding, canoeing, sailing, and other land and water sports. I am proud of my accomplishments in science over the last few years. I have won 2 gold medals at the Toronto Science Fair, and I consider my invitation to compete at the Canada Wide Science Fair an amazing achievement. I have been curious about electricity for many years, and have made it the focus of all of my science fair projects. This year, my curiosity took a different direction, as I explored electromagnets. Further exploration could include adding more variables. My advice: work hard. Always ask for help if you need to.

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