

## CWSF 2009 - Winnipeg, Manitoba



### Emily Jingyi Chua

#### The Displacement of Copper Ions by Aluminum in Copper Solutions

**Division:** Engineering & Computing Sciences / None

**Category:** Intermediate

**Region:** Halifax

**City:** Halifax, NS

**School:** Sacred Heart School of Halifax

**Abstract:** Based on the activity series, copper ions from different copper solutions [CuCl<sub>2</sub>, Cu(NO<sub>3</sub>)<sub>2</sub>, and CuSO<sub>4</sub>] were attempted to be displaced using aluminum metal. Any metal higher on the series should in theory be able to displace any lower metal. However, this reaction was hindered by the presence of an oxide layer on aluminum wire, so physical and chemical methods were applied to remove it.

#### Biography

I was born in Halifax, Nova Scotia, where I still live. I'm sixteen years old and am in Grade 10 at Sacred Heart School of Halifax, which is an all girls' school. I have received Honours with Distinction (an average of 85 or above) every year throughout junior and senior high. This school year has been extremely busy; I've been involved in my school's soccer, field hockey, and badminton teams. This year, I and my doubles partner, won the Halifax Metro and Nova Scotia Regionals badminton tournaments. Besides sports, I'm interested in many extracurricular activities; throughout junior and senior high, I've participated in a variety of school clubs, such as the Robotics team, the Math League, choir, creative writing, and the track and field team. I don't have a favourite subject; science, math, language, and physical education all interest me. In 2007, I won first place provincially in the Lagrange Mathematics contest, and every year since 2007 I have placed in the Royal Canadian Legion Literary Contest. Outside of school, I am a practitioner of Shotokan karate, and currently have my brown belt. As well, I am in grade 9 piano and am taking a music history class.

Youth Science Canada  
PO Box 297  
Pickering ON L1V 2R4  
www.youthscience.ca / info@youthscience.ca  
416-341-0040