



## CWSF 2011 - Toronto, Ontario



## Biography

Frank Hawkins was born and raised in Thunder Bay, Ontario. He is currently a grade 8 student at Thunder Bay Christian School. He enjoys playing guitar, bass guitar, and piano. He also enjoys thinking and learning about science. His favourite scientific pursuits include astronomy, physics and finding ways to improve on things. In his spare time he likes playing musical instruments, watching Doctor Who, and Science specials on the Discovery Channel.

## **Frank Hawkins**

## **3D Hearing**

Challenge: Innovation	
Category:	Junior
Region:	Northwestern Ontario
City:	Thunder Bay, ON
School:	Thunder Bay Christian School
Abstract:	Current sound technology does not mimic the human ability to perceive sound from all directions. I made an apparatus to find the minimum angle people can distinguish two different sounds at various distances, both up/down and front/back. I found that people can hear equally well on both planes, but the angle of discrimination widens the closer the sound sources get to the ear.



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

