



## CWSF 2017 - Regina, Saskatchewan



## **Mac Smith**

## **Head Start Concussion Alert System**

Challenge: Innovation Category: Junior

**Region:** Fraser Valley **City:** Abbotsford, BC

School: Clayburn Middle School

Abstract: Head Start is an innovation involving circuits and coding. When integrated

into a helmet, it will be able to alert officials (ie light or buzzer) when a player has sustained enough impact force to the head to cause a

concussion. This will be helpful to all athletes who play contact sports and will hopefully reduce the number and severity of concussions.

## **Biography**

Hi I'm Mac and I'm 12 years old! I Invented Head Start: Concussion Alert System. My innovation is a circuit which, when integrated into a helmet, will be able to alert officials when a player has sustained enough impact force to the head to cause them a concussion. I have played hockey since I was five and had two concussions, so I decided to help out athletes like me. I thought, "Wouldn't it be cool to have a device to detect a concussion to take the player off the ice sooner rather than getting hit again?" At first it seemed like a dream but after further research I found that this is possible! With the help of my dad, driving to Vancouver and helping me get the supplies, I created my first circuit. I also needed help from a professor at UFV to create a fully working circuit with a light and buzzer. Eventually, I want to integrate this into a helmet! My advice to young scientists is to do a project related to you. The coolest part about my project to me is that this could help me and my friendswhich is very rewarding in the end!





