ESPC 2018 - Ottawa (Ontario)

Arlo Watts

Oven in an Envelope: Reflections on Parabolas & Solar Energy

Défi: Énergie
Catégorie: Junior
Région: Vancouver Island
Ville: Victoria, BC
École: Central Middle School
Sommaire: A parabola is a mathematical curve that can be calculated using a simple mathematical equation. All the light that hits a parabola's surface from directly above will be reflected towards a specific focal point. This makes parabolas very good at focusing light and concentrating energy. I experimented with three different parabolic curves, all with the same properties, to see which one focused the most light.

Biographie

I was inspired to do this project when I first learned that there is an infinite number of possible, calculable, parabolic, curves. During the experimentation I also designed a cheap solar oven using only cardboard and reflective paper, which can all be recycled or composted. The solar ovens can be taken apart and put into a medium sized envelope, hence the project name, Oven in an Envelope. I plan to do additional experiments with my parabolic solar ovens to test their capabilities in different climates and places. I am extremely interested in physical and mathematical sciences, but I also very much enjoy programming games on the website Scratch and building Lego models.During the seasons, I play volleyball on the school team, gymnastics at Victoria Gymnastics and Hockey at the Oak Bay Recreation Center. As advice to other students thinking about doing a project, do it. It is really fun to explain your passions to the public and even if you don't win any prizes, it will definitely still leave you with good memories. But if you are keen on winning prizes, projects that are related to protecting the environment are heavily favored.