

Kayla Cleland

*Constructing a Solar Oven and Using It to Boil Water*

The purpose of this experiment is to build a solar oven, and use it to bring water to a boil, demonstrating a viable use of energy as an alternative to fossil fuel. The data obtained could be useful to others in duplicating and improving upon this process. Using cardboard boxes, aluminum tape, spray rubber cement, a picture frame with glass, a meat thermometer, and insulation material, a solar oven was constructed. The oven was placed outside, a saucepan with two cups of cold water was placed in the oven and the oven was closed. Starting at 1:00 PM on a clear sunny day, until 3:30 PM, the outside temperature, the oven temperature, weather conditions, and conditions inside the oven were observed and recorded every ten minutes. Prior to being placed outside, the oven temperature was 70 degrees Fahrenheit. Thirty minutes after putting the oven outside, the water was placed in the oven. The oven temperature was 129 degrees, and reached 138 degrees. The boiling point of water is 109 degrees Fahrenheit. At the conclusion of the experiment, the water reached 132 degrees, exceeding its boiling point. The oven successfully boiled water, supporting my hypothesis.