Physics 100 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solar Cooker Project

Cookers Due May 27th. PowerPoint Due June 5th.

**Part 1: Contest**

**Goal**: Create a solar cooker that will heat a hot dog to a maximum temperature in 15 minutes.

**Scoring**:

* Score will calculated by dividing the hot dog temperature increase by the temperature increase of the *control cooker*\*.

**Allowed Materials:**

* Reflective mylar from ½ emergency blanket (approximately 42” x 54”)
* Any other materials or objects that are safe, school appropriate, and were not meant to be used for solar cooking.

**Rules/Limitations:**

* All cooking energy must be provided by the sun.

\* The control cooker is a cooker created by Mr. Stapleton. It will be operated in the same fashion during each block to serve as a fair measure of available solar energy during each block.

**Part 2: PowerPoint Presentation**

Your PowerPoint (or Google Slides) presentation must have ***at least*** seven slides (see below). ***You may have more slides***, but make sure that you have the seven below.

**Slide 1:** Title with group member names

**Slide 2:** Early planning. Three possible designs, labeled with materials.

**Slide 3:** The chosen design. *[3 person groups must have 2 drawings – a perspective view and one other view.]*

* Detailed drawing(s)
* Materials labeled

**Slide 4:** Photo of the construction process. Taken on Friday, 5/22 or Wed, 5/27 *[3 person groups must have 2 photographs taken at significantly different times showing different aspects of the process.]*

**Slide 5:** How it works

* Show and/or explain how the law of reflection helps explain the design of your cooker.
* Describe at least one other mechanism that helps your solar cooker harness solar energy. *[3 person groups must have 2 other mechanisms.]*

**Slide 6:** Contest Day

* Photo of your cooker, in action *[3 person groups must have 2 photos with different compositions.]*
* Your results
  + Starting and ending hotdog temperatures
  + Contest Score
  + High, low, and median contest scores.

**Slide 7:** What could you do to improve your cooker?