**Astronomy Ranking Task:**  
**Luminosity of Stars**

**Exercise #1**

**Description:** Imagine you are comparing the five electric hot plates (A – E) of different sizes and temperatures. The temperature of each hot plate is indicated by a shade of gray such that the lighter the shade of gray, the higher the temperature of the hot plate.

A. **Ranking instructions:** Rank the surface area (from largest to smallest) of the hotplates.

**Ranking Order:**  
Largest 1 ____  2 ____  3 ____  4 _____ 5 _____ Smallest  
Or, all the hotplates have the same surface area. _____ (indicate with a check mark)

**Carefully explain** your reasoning for ranking this way:
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

B. **Ranking instructions:** Rank the temperature (from hottest to coldest) of the hotplates.

**Ranking Order:**  
Hottest 1 _____  2 _____  3 _____  4 _____ 5 _____ Coldest  
Or, all the hotplates have the same temperature _____ (indicate with a check mark)

**Carefully explain** your reasoning for ranking this way:
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
C. **Ranking instructions:** Rank the total energy output or luminosity (from greatest to least) of the hotplates.

**Ranking Order:** Greatest  1 ____  2 ____  3 ____  4 ____  5 _____ Least

Or, all the hotplates have the same energy output or luminosity. _____ (indicate with a check mark)

**Carefully explain** your reasoning for ranking this way:

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________