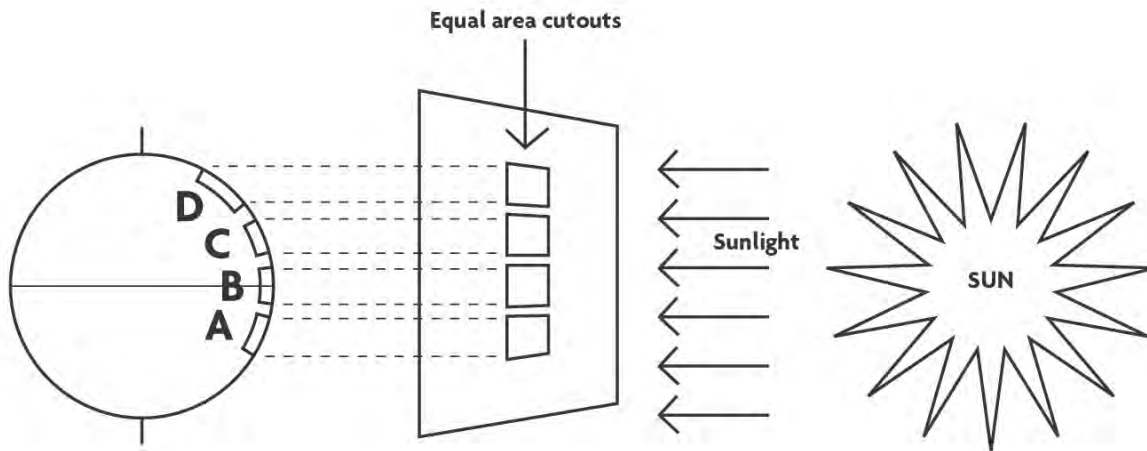


Astronomy Ranking Task: The Seasons

Exercise #3

Description: In the figure below parallel beams of sunlight are projected through equal sized cutouts of a screen and then strike a spherical globe at locations A - D. Note that A and C are at the same “latitude” on the globe.



A. Ranking Instructions: Rank the size (from largest to smallest) of the illuminated areas (A – D) on the globe.

Ranking Order: Largest 1 _____ 2 _____ 3 _____ 4 _____ Smallest

Or, each of the illuminated areas are equal. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

B. Ranking Instructions: Rank the brightness (from brightest to dimmest) of each illuminated area on the globe (A – D).

Ranking Order: Brightest 1 _____ 2 _____ 3 _____ 4 _____ Dimmest

Or, the areas are all the same brightness. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

C. Ranking Instructions: Imagine that you placed very sensitive thermometers against each illuminated area on the globe and measured its temperature. Rank the temperature (from coolest to hottest) of each illuminated area (A – D).

Ranking Order: Coolest 1 _____ 2 _____ 3 _____ 4 _____ Hottest

Or, the temperatures of each illuminated area would all be the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

D. Ranking Instructions: Rank the total amount of light striking each part of the globe (A - D).

Ranking Order: Most 1 _____ 2 _____ 3 _____ 4 _____ Least

Or, the same total amount of light strikes each part of the globe. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:
