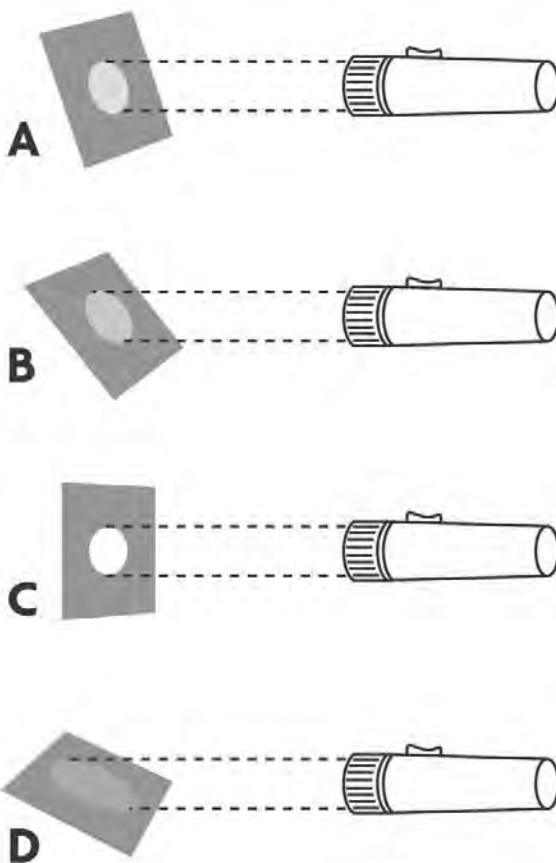


Astronomy Ranking Task: The Seasons

Exercise #2

Description: In each figure below a flashlight is shown projecting identical beams of light onto pieces of paper (A – D) inclined at various angles.



A. Ranking Instructions: Rank the size of the illuminated area (from largest to smallest) on each piece of paper (A – D).

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

Or, the illuminated areas are all the same size. _____ (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 pieces of paper (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 a very sensitive thermometer against the illuminated area of each piece of paper 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 distance (from shortest to longest) of each illuminated area (A - D) from the flashlight.

Ranking Order: Shortest 1 _____ 2 _____ 3 _____ 4 _____ Longest

Or, the distances of each illuminated area from the flashlight are all the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

GO Ranking Instructions: Rank the total amount of light striking each of the pieces of paper (A – D).

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

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

Carefully explain your reasoning for ranking this way:
