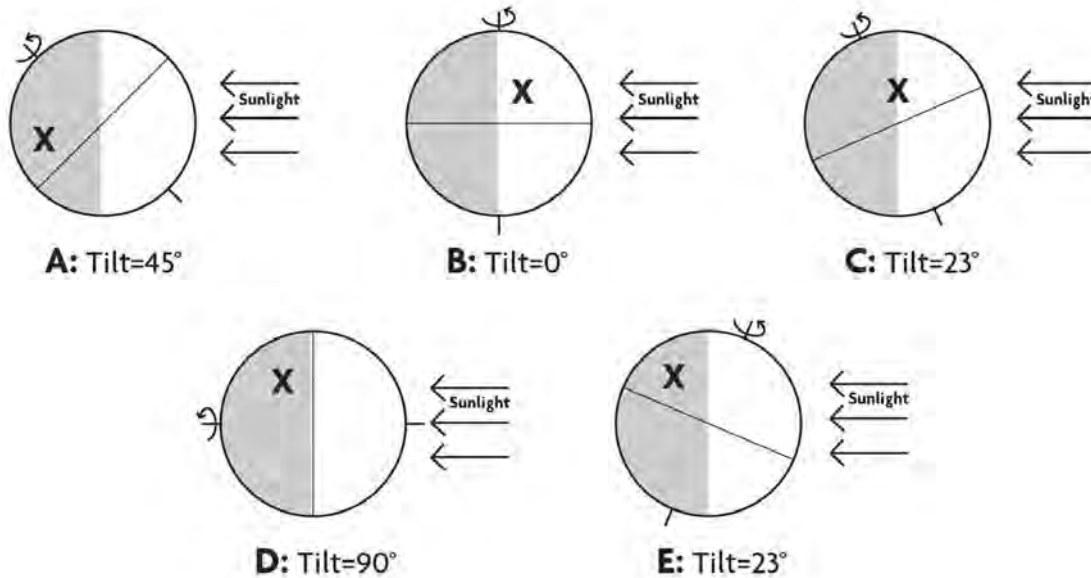


Astronomy Ranking Task: The Seasons

Exercise #5

Description: In the figures (A – E) below parallel beams of sunlight illuminate globes tilted at various angles. Like the Earth, the globes rotate so that each location (indicated by an X) on each globe is sometimes in sunlight and sometimes in darkness. Assume that the globes make one full rotation every 24 hours, and that the distance of each “X” above the equator is the same on each globe.



A. Ranking Instructions: Rank the time (from longest to shortest) that each location spends in daylight during the 24 hour rotation period.

Ranking Order: Longest time 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Shortest time

Or, the time spent in daylight for each location is the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

B. Ranking Instructions: Imagine that you placed identical glasses of water at each location indicated by an "X" for globes A - E. Rank the highest temperature (from coolest to hottest) a glass of water would reach during a 24 hour period at each location.

Ranking Order: Coolest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Hottest

Or, the temperature of each glass of water is the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

C. Ranking Instructions: Rank the time it takes (from longest to shortest) for each location ("X") on globes A - E to complete one full rotation.

Ranking Order: Longest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Shortest

Or, the time required for each location to make a full rotation is the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:
