Reading Decay Counts Over Different Intervals

Scoring guide · one credit per question · review written work against each rubric

Reading Decay Counts Over Different Intervals

Question 1

At time zero the rate is 80/2.0 = 40 emissions per minute. At four hours it is 80/4.0 = 20 emissions per minute.

Question 2

Choice (2)

The count rate falls by half over the four-hour elapsed time.

Question 3

Eight hours is two half-lives, so the model rate falls from 40 to 20 to 10 emissions per minute. Multiplying 10 emissions per minute by three minutes gives an expected count of 30.

Question 4

The later row takes twice as long to record the same count. Its rate is half as large, which is consistent with fewer parent nuclei remaining.