Comparing Dye Uptake in Two Felt Shapes

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

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Question 1

The cut-piece bath drops 4 mg/L over 2 min, or 2 mg/L per minute. The whole-pad bath drops 2 mg/L over 2 min, or 1 mg/L per minute. The concentration falls twice as fast for the cut pieces over that interval.

Question 2

Choice (1)

Both curves reach 4 mg/L and stay there through the end of the observations.

Question 3

Dye must come off the felt and enter the solution. The new container started with clear water, so the dye observed there came from the dyed pad.

Question 4

Dye can attach and detach at equal rates. In that case there is no net change in the amount of dye in the bath even though both processes continue.