Comparing Water Loss in Two Salt Removals

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

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Question 1

Choice (1)

P leaves 4.0 g in 1.0 L, or 4.0 g/L. Q leaves 4.0 g in 0.50 L, or 8.0 g/L.

Question 2

The original concentration is 10/2.0 = 5.0 g/L. Q leaves 4.0 g in 0.50 L, or 8.0 g/L, because it removes a greater fraction of the volume than of the salt mass.

Question 3

To reach 4.0 g/L with 4.0 g salt, the final volume must be 1.0 L. Starting from 0.50 L, add 0.50 L of pure water.

Question 4

Q still has 4.0 g of salt. Adding pure water changes the concentration and volume, but the mass removed by Q remains 10 − 4.0 = 6.0 g.