Estimating Freezing in a Model Brine Bath

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

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Question 1

Salt A gives 0.10 mol formula units × 2 mol ions per mole = 0.20 mol ions. Salt B gives 0.10 × 3 = 0.30 mol ions.

Question 2

Choice (2)

Both salts are added at 0.10 mol formula units. B supplies three ions per formula unit, while A supplies two.

Question 3

Doubling the water mass halves the particle amount per mass of water. The decrease from 0.0 °C changes from 3.0 °C to 1.5 °C, giving −1.5 °C.

Question 4

The model depends on how many dissolved particles there are per mass of water. Both have the same particle amount, but the diluted bath has more water and fewer particles per mass of water.