Comparing Vapor Over Sugar and Salt Models

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

Comparing Vapor Over Sugar and Salt Models

Question 1

Choice (2)

Both have 90 water particles. Salt gives 20 separate solute particles, while sugar gives ten, so the water fraction is lower in the salt model.

Question 2

Water makes up 90 out of 100 liquid particles. The pressure is 10 × 90/100 = 9.0 kPa.

Question 3

The number of independent solute particles differs. The water fractions are 90/100 and 90/110, so the vapor pressures differ even though each gets ten solute units.

Question 4

Matching the sugar model needs ten independently moving solute particles. Each salt unit gives two, so five salt units would match it.