Reading a Dissolving Test That Cools

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

Reading a Dissolving Test That Cools

Question 1

Choice (1)

Both rise from zero to four units in two minutes.

Question 2

P rises from 4 to 10, so six units dissolve. Q rises from 4 to 16, so twelve units dissolve.

Question 3

The explanation based on saturation is inconsistent with the model. The setup states that both cups stay below their solubility limits. P still dissolves six units between minute two and minute eight. It cools to 19 °C, while Q stays at 25 °C and dissolves twelve units in that interval. The comparison supports cooling as the explanation for the slower dissolving in P.

Question 4

Keep the starting grain size the same in both cups. Compare the amount of solid dissolved over the same short time interval, while both cups are still below saturation. Other acceptable controls include starting mass of solid, water volume, or stirring rate. Accept another valid measure of dissolving rate, such as time to dissolve the same fixed amount below saturation.