Measuring Open Space in a Model Grain Bed

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

Measuring Open Space in a Model Grain Bed

Question 1

Loose has 50 − 24 = 26 mL of open gaps. Pressed has 40 − 24 = 16 mL.

Question 2

Choice (2)

The water displacement is the same, but the outside volume falls by 10 mL. The lost volume is open space between grains.

Question 3

Displacement measures space that the water cannot occupy. The sealed spaces block water just as the surrounding solid does, so the measured volume includes both.

Question 4

Measure the outside volume and the volume displaced by the grains in each condition. A change in outside volume with unchanged displacement supports a change in open gaps.