Counting Oxygen in a Model Plant Tank

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

Counting Oxygen in a Model Plant Tank

Question 1

In L the total increase is 0.10 + 0.30 = 0.40 mmol. In H it is 0.30 + 0.05 = 0.35 mmol.

Question 2

Choice (2)

H has more oxygen as collected gas. When dissolved oxygen is included, L has the greater total increase.

Question 3

Yes. L now totals 0.40 + 0.02 = 0.42 mmol. H totals 0.35 + 0.12 = 0.47 mmol. H has the greater increase when all three locations are included. Accept an equivalent calculation using the three measurements for each tank.

Question 4

Photosynthesis adds oxygen while respiration consumes some oxygen during the same period. Adding the three measured locations accounts for where the oxygen went, but it does not recover oxygen already consumed. The total is production minus consumption.