Counting Carbon Left After a Light Cycle

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

Counting Carbon Left After a Light Cycle

Question 1

The plant takes up 0.012 mol of carbon in the light interval and returns 0.006 mol in the dark interval. It retains 0.006 mol of carbon atoms.

Question 2

Choice (1)

The dark interval adds 0.006 mol CO_2 to the air. That carbon leaves the plant.

Question 3

The model has 0.006 mol carbon atoms. Dividing by 6 gives 0.001 mol glucose.

Question 4

The measured glucose accounts for 6 × 0.00060 = 0.0036 mol of carbon atoms. That is less than the measured 0.006 mol retained. The remaining carbon can be stored in other plant molecules, so both measurements can fit.