Cellular Respiration and Energy Worksheet

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

Cellular Respiration and Energy

Question 1

Choice (1)

Glucose and oxygen appear on the reactant side.

Question 2

They are in carbon dioxide. Six carbon atoms in one glucose molecule appear in six CO_2 molecules.

Question 3

Choice (3)

The coefficient 6 before O_2 gives six molecules per glucose molecule.

Question 4

The equation tracks matter for the overall oxidation of glucose. The cell also couples part of the released energy to making ATP, a process the simplified matter equation does not show.

A Cell Model Tracks Gas Exchange

Question 5

Each glucose molecule produces six CO_2 molecules in the model. R uses five glucose molecules, giving 5 × 6 = 30 CO_2 molecules.

Question 6

Choice (2)

Q consumes 24 oxygen molecules, twice the 12 in P.

Question 7

Four glucose molecules require 4 × 6 = 24 O_2 molecules in the net model. A count of 20 is lower than the predicted count.

Question 8

Choice (1)

The net model has equal coefficients of 6 for O_2 and CO_2. Both counts in Q are 24.