Electron Transfer in Cells Worksheet

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

Electron Transfer in Cells

Question 1

Choice (1)

The Zn half reaction puts the electrons on the product side.

Question 2

The wire carries electrons between electrodes. The salt bridge allows ions to move so charge does not build up in the solutions.

Question 3

Choice (1)

Every electron released by oxidation must be consumed by reduction in the balanced cell reaction.

Question 4

They gain electrons and become neutral copper atoms in the solid.

Model Zinc–Copper Cell

Question 5

Choice (1)

Zinc releases electrons and copper ions consume them.

Question 6

Three Zn atoms release six electrons. Each Cu^{2+} needs two electrons, so six electrons reduce three Cu^{2+} ions.

Question 7

Choice (1)

Oxidation adds Zn^{2+} to the zinc solution. Anions moving toward that side help balance the positive charge.

Question 8

The copper electrode gains mass. Cu^{2+} ions gain electrons and deposit as solid copper on that electrode.