Checking Particle Identity After Heating

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

Checking Particle Identity After Heating

Question 1

Choice (1)

P has AB_2 in both the original solid and its gas. Q produces D_2, which is different from its original CD_2 molecules.

Question 2

P produces gas with the same molecular formula as the original solid, consistent with a phase change. Q produces a different molecule, showing a change in how the atoms are joined.

Question 3

Twelve D_2 molecules form. Before there are $12 \times 2 = 24$ D atoms in CD_2. After there are $12 \times 2 = 24$ in D_2.

Question 4

Both physical and chemical changes conserve atoms in the model. Here D atoms become part of D_2 instead of CD_2, so bonds change even though the D atom count stays the same.