Accounting for Water in a Condensing Box

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

Accounting for Water in a Condensing Box

Question 1

Choice (1)

Vapor decreases by 3.0 g while liquid increases by 3.0 g. The total water stays 8.0 g.

Question 2

As water molecules form the liquid, their attractions hold them closer together and their potential energy decreases. The condensing water transfers energy to the panel.

Question 3

The first run transfers 3.0 × 2.4 = 7.2 kJ. The second transfers 1.5 × 2.4 = 3.6 kJ. The difference is about 3.6 kJ.

Question 4

No. The condensation energy depends on the mass condensed. A cooling system can keep the panel at the same temperature while removing different amounts of energy.