Checking Boiling With Two Heater Settings

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

Checking Boiling With Two Heater Settings

Question 1

Choice (1)

P and Q both use 80 kPa while the heater power changes from 20 W to 40 W.

Question 2

Q boils sooner than P, but both plateaus are 94 °C at 80 kPa. Higher power changes when boiling starts in these runs, not its temperature.

Question 3

The plateau should be 100 °C. R has the same 100 kPa chamber pressure. P has the same heater power but a different pressure.

Question 4

Heat the same water mass from the same starting temperature at 100 kPa. Use 20 W for the fourth sample and 40 W for R. For each run, record the elapsed time to the start of sustained boiling and its plateau temperature. Different elapsed times at the same plateau would show that heater power changed the time to boil in this model.