Boiling Point and Particle Attractions Worksheet

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

Boiling Point and Particle Attractions

Question 1

Choice (1)

Normal boiling points are defined at the same external pressure.

Question 2

Molecules separate as intermolecular attractions are overcome. The covalent bonds within each molecule remain intact.

Question 3

Choice (1)

More thermal energy is typically needed to separate molecules with stronger attractions.

Question 4

It takes a lower vapor pressure to match the reduced external pressure. The liquid reaches that vapor pressure at a lower temperature.

Comparing Model Liquid Samples

Question 5

Choice (1)

P has the lowest normal boiling point, 46 °C.

Question 6

92 °C − 70 °C = 22 °C.

Question 7

R has the higher boiling point, 92 °C compared with P at 46 °C. With similar molar masses and the same pressure, this supports stronger attractions between R molecules.

Question 8

Choice (3)

Changing external pressure can change the boiling temperature independently of intermolecular attraction strength.