# Comparing Energy Costs of Evaporation

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

### Comparing Energy Costs of Evaporation

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### Question 1

Choice (1)

At each shared positive mass the water line is higher, so water requires more energy for the same evaporated mass.

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### Question 2

At 3.0 g the readings are 6.9 kJ for water and 2.7 kJ for B. Water requires 6.9 − 2.7 = 4.2 kJ more.

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### Question 3

Water needs about 2.3 kJ/g, giving 1.8/2.3 ≈ 0.78 g. B needs 0.9 kJ/g, giving 1.8/0.9 = 2.0 g. Accept equivalent graph estimates.

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### Question 4

Energy allows particles to leave the liquid and enter the gas phase, increasing their separation and potential energy. The average kinetic energy can stay approximately constant at constant temperature.