

2 Some water in a saucepan is boiling.

(a) Explain why

(i) external work is done by the boiling water,

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(ii) there is a change in the internal energy as water changes to steam.

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[5]

(b) By reference to the first law of thermodynamics and your answers in (a), show that thermal energy must be supplied to the water during the boiling process.

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[2]