

- 13 Thermal energy is supplied to 5.00 kg of water at 30.0 °C. All of this water becomes steam at 100 °C. There is no heat loss to the surroundings.

Specific heat capacity of water =  $4190 \text{ J kg}^{-1} \text{ K}^{-1}$ .

Specific latent heat of vaporisation of water =  $2260 \text{ kJ kg}^{-1}$ .

How much thermal energy is supplied to the water?

- A  $1.48 \times 10^6 \text{ J}$
- B  $3.73 \times 10^6 \text{ J}$
- C  $1.13 \times 10^7 \text{ J}$
- D  $1.28 \times 10^7 \text{ J}$

- 14 A canister of an ideal gas, at rest on the Earth's surface, has an internal energy of 3.0 kJ. The