

20080415_0850

One gallon of water is frozen and lowered to a temperature of -20°C . How much energy is needed to turn all of this ice into steam at 100°C ? (Answer in kWh)

Heat of vaporization = 539 cal/g

Heat of fusion = 80 cal/g

Specific heat of ice = $.53 \text{ cal/g}$

" " " water = 1 cal/g

" " of steam = $.48 \text{ cal/g}$