

5. It takes 540 calories of heat to convert one gram of water to steam at 100°C , because the latent heat of vaporization for water is $L_v = 540 \text{ cal / gm}$. Thus the amount of heat required to boil 300 grams of water is

$$Q = L_v m$$

$$Q = (540 \text{ cal / gm}) (300 \text{ gm}) = 162,000 \text{ cal}$$