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Specific Heat

c \equiv Specific Heat

$$\Delta Q = mc\Delta T$$

Determine the amount of energy required to raise the temperature of 100 g of water from 25 °C to 70 °C.

$$\Delta Q = (100 \text{ g})(4.184 \text{ J/(g}\cdot\text{°C)})(70 \text{ °C} - 25 \text{ °C})$$

$$\Delta Q = 18828 \text{ J}$$

Specific Heat Data Table

Substance	Specific Heat (J/(g·°C)) *
Lead	0.128
gold	0.129
mercury	0.140
silver	0.234
iron	0.448
zinc	0.388
copper	0.387
aluminum	0.900
water (g) 100 °C	2.010
water (s) - 5 °C	2.090
water (l)	4.184

* Specific heats are measured at 25 °C and 1 atm, unless otherwise noted.