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Physics 11 - Quiz 2 2/17/2020

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$$P = \frac{dQ}{dt} = \frac{dU}{dt} = \frac{dU}{dT}\frac{dT}{dt} = mc\frac{dT}{dt}$$

$$\longrightarrow\ c = \frac{P}{m\frac{dT}{dt}} = \frac{100\mathrm{W}}{(0.4\mathrm{kg})(\frac{15}{150}C^{\circ}/\mathrm{s})} = 2500\frac{\mathrm{J}}{C^{\circ}\cdot\,\mathrm{kg}}$$