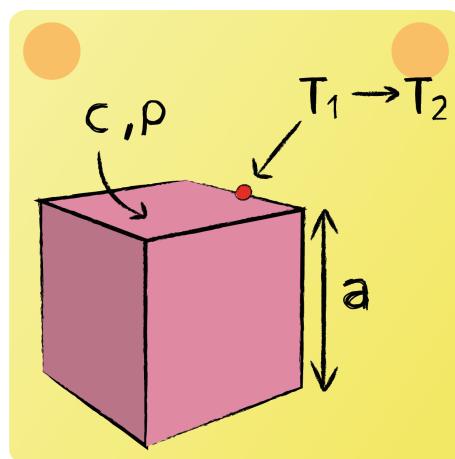


Lecture 01 - Energy 03

A cube cools down from T_1 to T_2 . It loses an amount of Q of energy. Assume its temperature to remain homogeneous. Give an expression for T_2 .



Energy balance:

$$\begin{aligned} Q &= mcT_1 - mcT_2 \\ \rightarrow T_2 &= T_1 - \frac{Q}{mc} \end{aligned}$$

Where:

$$m = \rho \cdot V = \rho \cdot a^3$$

So:

$$\rightarrow T_2 = T_1 - \frac{Q}{\rho a^3 c}$$