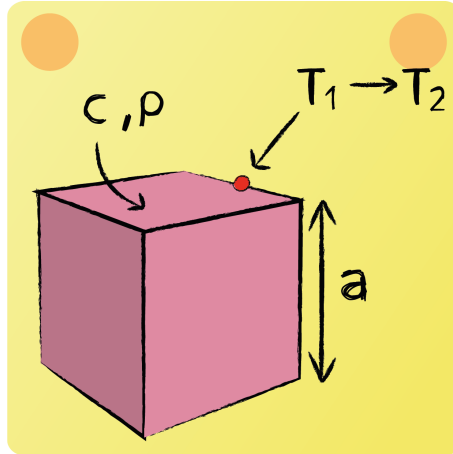


## Lecture 01 - Energy 03

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:

$$Q = mcT_1 - mcT_2$$

$$\rightarrow T_2 = T_1 - \frac{Q}{mc}$$

Where:

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

So:

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