

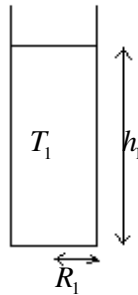
Experiment on Temperature Variation with Surface

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Temperature is an energy surface density.

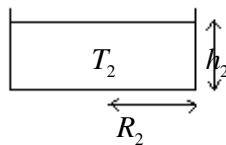
$$T = \frac{E}{S} \quad \Leftrightarrow \quad S_1 T_1 = S_2 T_2$$

We have some water in a cup with the dimensions:



$R_1 = 0.03m$ and $h_1 = 0.14m$ at the temperature $T_1 = 33^\circ C$

We transfer the water to another cup:



$R_2 = 0.05m$ and $h_2 = 0.05m$

And the water temperature rises $0.8^\circ C$, so:

$$T_2 = 33.8^\circ C$$