

Heat Transfer: Radiation

- All things radiate and absorb electromagnetic energy

$$\rightarrow I_{\text{emit}} = eA\sigma T^4$$

$$\rightarrow I_{\text{absorb}} = eA\sigma T_0^4$$

$$\rightarrow I_{\text{net}} = I_{\text{emit}} - I_{\text{absorb}} = eA\sigma(T^4 - T_0^4)$$

» if $T > T_0$, object cools down

» if $T < T_0$, object heats up



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