

Physics 11

Lecture Problem 1

February 12, 2009

A stainless steel ($c_s = 450 \frac{\text{J}}{\text{kg}^\circ\text{C}}$) coffeepot has a mass of 500 g and operates at 1000W. How long does it take to raise 1L of water, initially at 20°C , to its boiling point? Assume the pot starts with the same temperature as the water, and no heat is lost through the walls of the pot (it is well-insulated).

Physics 11
Lecture Problem 2
February 12, 2009

How much energy is needed to take 0.5 kg of water from -10°C to steam at 100°C ?

