10. Resistive Heating (8 points) Measure the resistor. You are not asked to estimate the uncertainty.

Equipment: resistor, voltage source (batteries), ammeter, calorimeter, thermometer, stopwatch.

The calorimeter has $V = 0.80\,\mathrm{dl}$ of water and $m_a = 27\,\mathrm{g}$ of aluminum, specific heat capacity of water $c_w = 4.2\,\mathrm{J/(K \cdot g)}$ and of aluminum $c_a = 0.90\,\mathrm{J/(K \cdot g)}$. Internal resistance of the batteries will vary. Your set of batteries may become depleted, spares are available.