Comparison: *Capacitors* vs. *Resistors*

- Capacitors *store* energy as separated charge: U=QV/2
  - Capacitance: ability to store separated charge:
    $C = \kappa\varepsilon_0 A/d$
  - Voltage drop determines *charge*: V=Q/C
- Resistors *dissipate* energy as power: P=VI
  - Resistance: how difficult it is for charges to get through:
    $R = \rho L /A$
  - Voltage drop determines *current*: V=IR
- Don't mix capacitor and resistor equations!