Tuesday Reading Assessment: Unit 1, Ohm's Law and Resistors

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1 Memory Bank

- $V = iR$ ... Ohm's Law, with V for voltage, i for current, and R for resistance.
- $R_{tot} = R_1 + R_2$ ... Total resistance of two resistors in series.
- $R_{tot}^{-1} = R_1^{-1} + R_2^{-1}$ ... Total resistance of two resistors in parallel.

2 Current from Resistance and Voltage

1. Suppose an electrical circuit is comprised of a 5V battery, and two 1kΩ resistors *in series*. What is the current flowing from the battery?

2. Suppose an electrical circuit is comprised of a 5V battery, and two 1kΩ resistors *in parallel*. What is the current flowing from the battery?

3 Power

Suppose the power consumed by the circuit is $P = iV$, where i is the current and V is the voltage. Compute the power consumption for the circuits above.