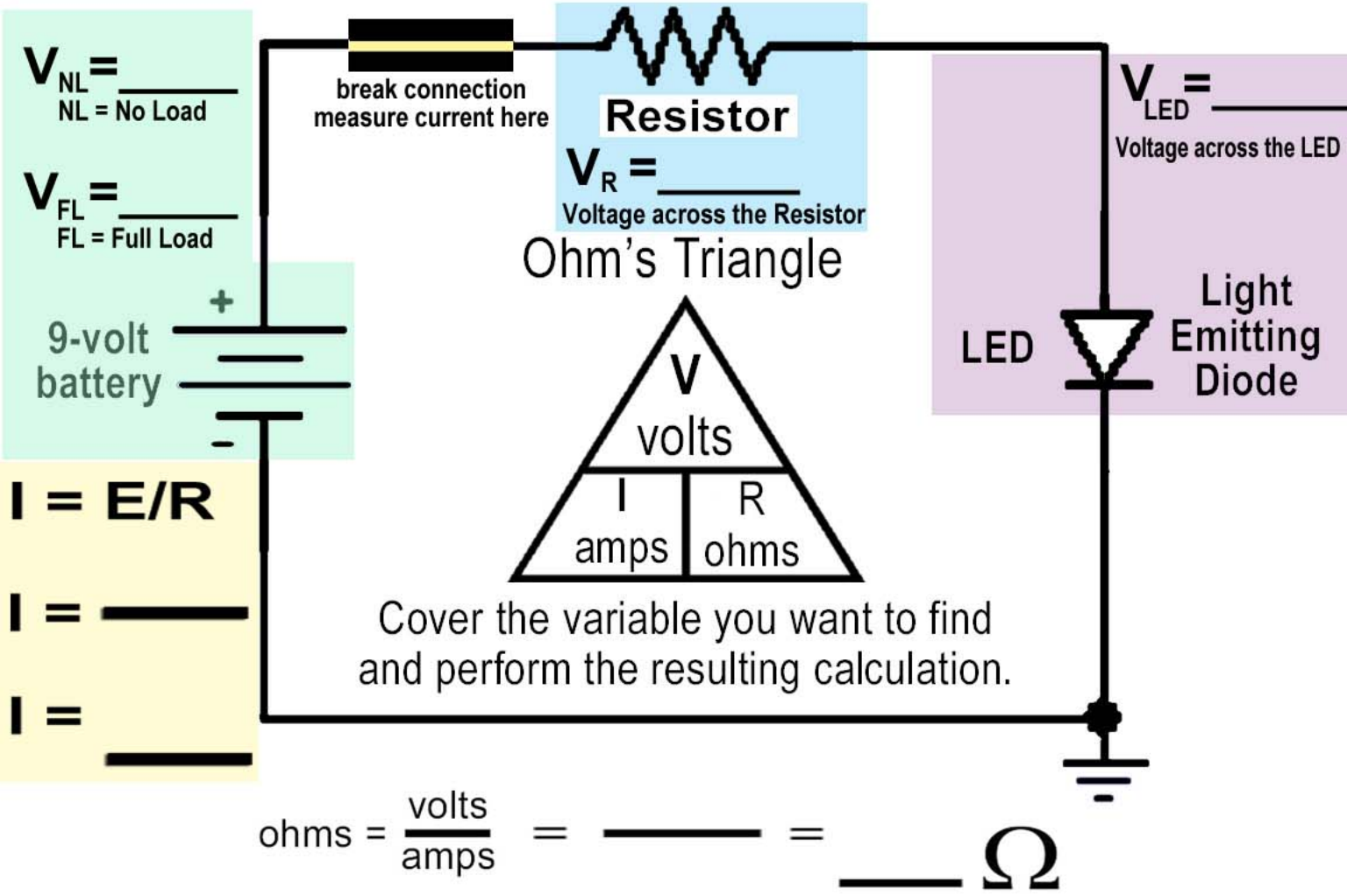
NAME_____DATE_____

Problem Solving, Hardware Style

An LED requires 2-volts to light up nice and bright. A 9-volt battery is available. How many volts must be "thrown away?" _____ V

If the LED consumes 10 milli-Amperes (mA) at max brightness, calculate the resistor value using OHM's Law... _____ Ω



$$\text{ohms} = \frac{\text{volts}}{\text{amps}} = \text{_____} = \text{_____}\ \Omega$$

STEP-1: Choose the Ohm's law variation that solves for Resistance.

STEP-2: Plug in the correct known quantities keeping in mind that the voltage drop *across* the resistor is needed and that the current *through* the LED is the same everywhere else in the circuit.

STEP-3: Does the voltage across the resistor plus the voltage across the LED equal the voltage supplied by the battery?