

Activity

Ohm's Law and LED Basics

Glowing a LED

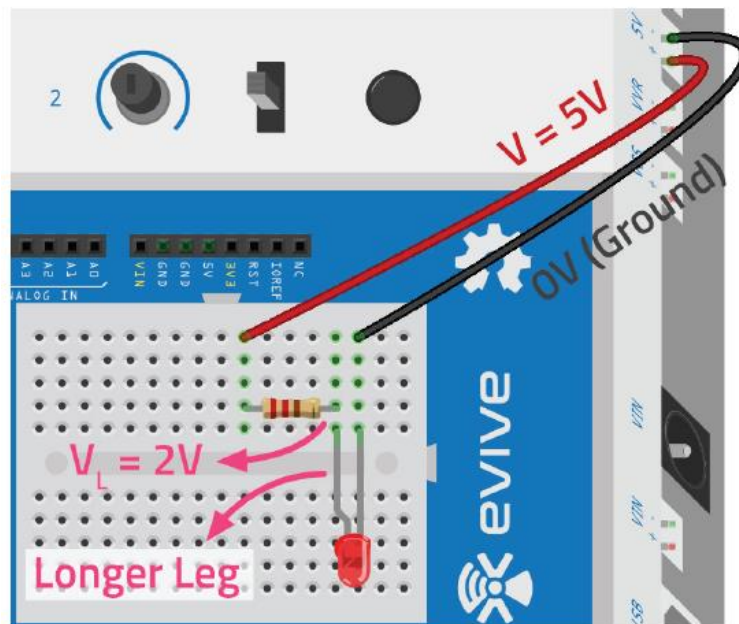
In this activity, you will learn how to glow a LED? You will also learn how the brightness of the LED changes when the value of the resistor is changes.

COMPONENTS

LED, Resistor of different values, Jumper Cable and evive.

STEP-BY-STEP

1. Make the following circuit on evive breadboard except the resistor:



2. What should be the resistor value for the circuit?

To glow the LED safely, you need to limit the current in the circuit within 20 mA. So, you have to calculate the minimum resistance value needed. **Assume that LED works at 2V and the voltage across the resistor will be around 3V.** Calculate the resistance value using Ohm's law:

$$V = IR$$

$$R = \frac{V}{I}$$

3. Now, connect the resistor with the value greater than what you have got in the previous step. The LED will glow once you complete the circuit.
4. Change the resistor and complete the worksheet.

