Tutorial TinkerCAD Electrical Parallel Circuit

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1. Navigate to TinkerCAD.com > Click Sign In Icon (Top Left Side of Screen > Select Students, Join your Classroom > Classroom CODE: See Teacher for Code > Nickname: Student First Name (all lower case)

2. User Hub > Select Circuits > Select Create New Circuit

Select New > Select Circuit
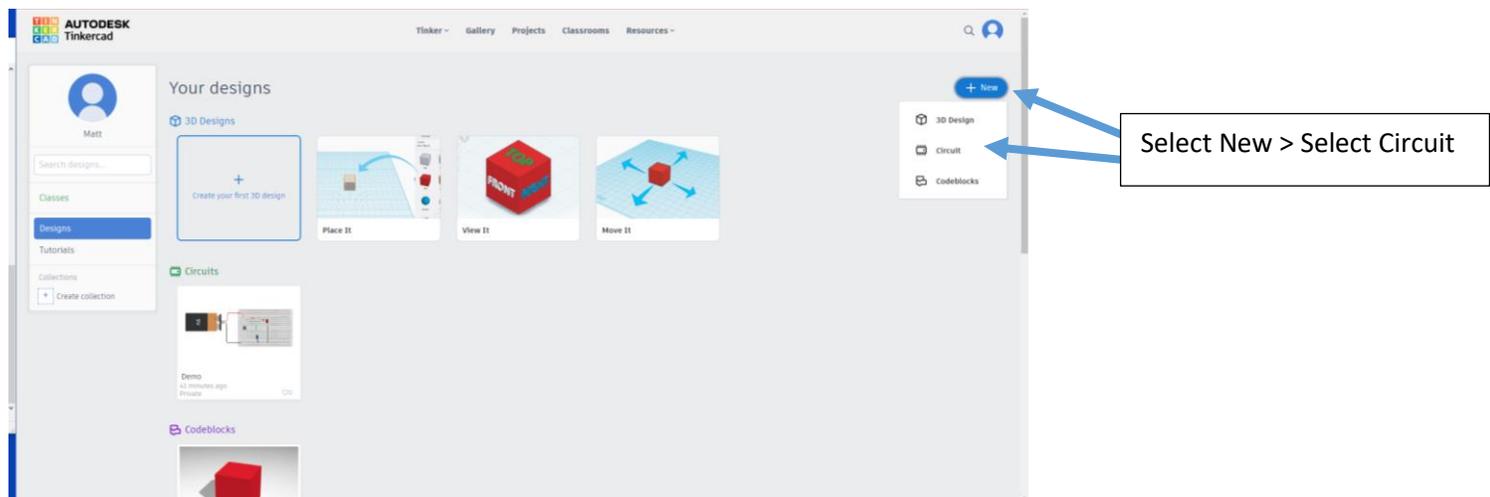
3. Rename File > Electrical Circuits 2: Parallel Circuit

Parallel Circuits

A **parallel circuit** is a closed **circuit** in which the current divides into two or more paths before recombining to complete the **circuit**. Each load connected in a separate path receives the full **circuit** voltage, and the total **circuit** current is equal to the sum of the individual branch currents
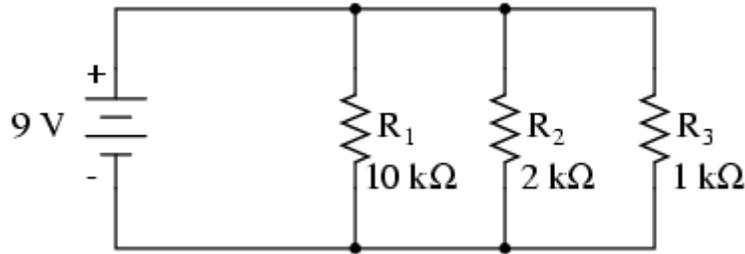
4. Place a 9V Battery, Breadboard (connection to the breadboard is the same as to a electrical component; place cursor on the breadboard hole to connect too; wait for the red box to appear > Left Click) , and wires (adjust colors as shown) as follows

    1. The previous Tutorial Electrical Circuits 1: Series Circuits did not use a Breadboard. Here we will use a breadboard, which allows the user to connect electrical components easier when having to reuse wires for multiple components. At the end of the tutorial the same circuit will be shown without using a breadboard
    2. Breadboard overview

Breadboard Setup
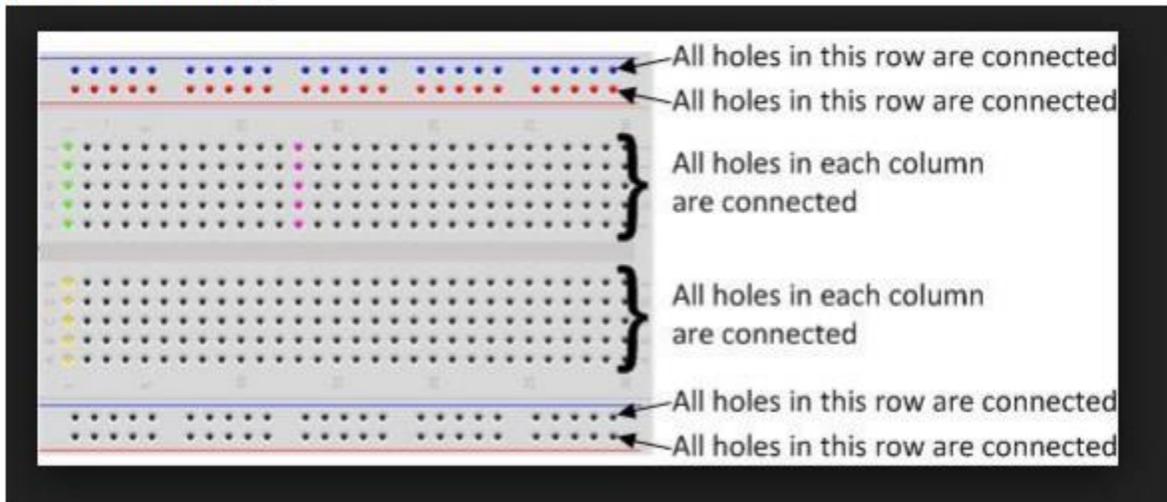
3. Connect wires and change colors as shown

Battery Basics

+ = Red Wire

- = Black Wire
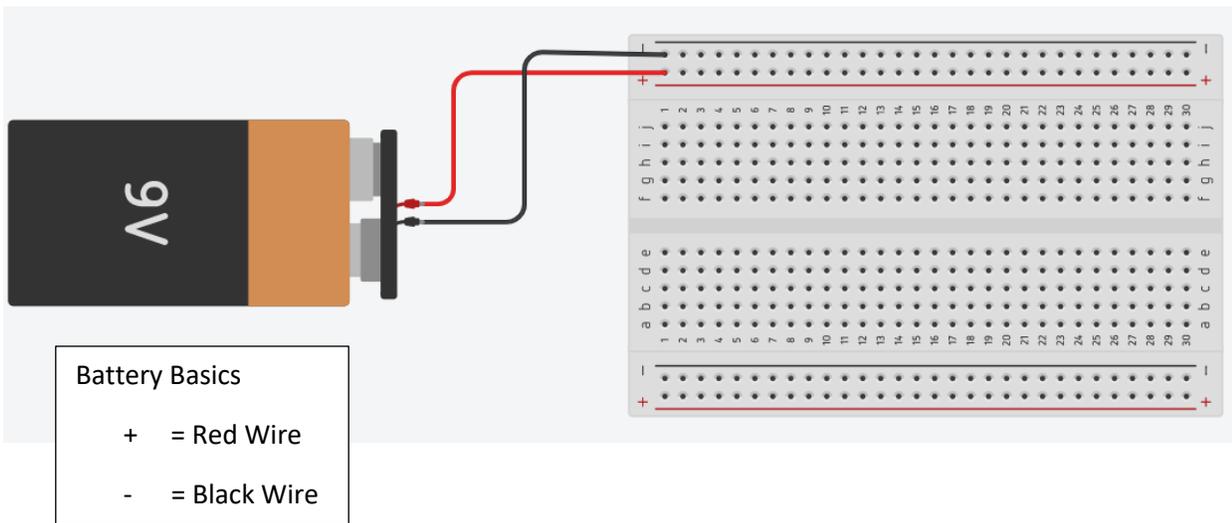
4. Place the electrical components and change the properties as shown
   NOTE: Be sure to place the Anode (Bent Wire) leading from the + Side of the Battery and the Cathode (Straight Wire) Leading to the – Side of the Battery

100 KΩ

220 Ω
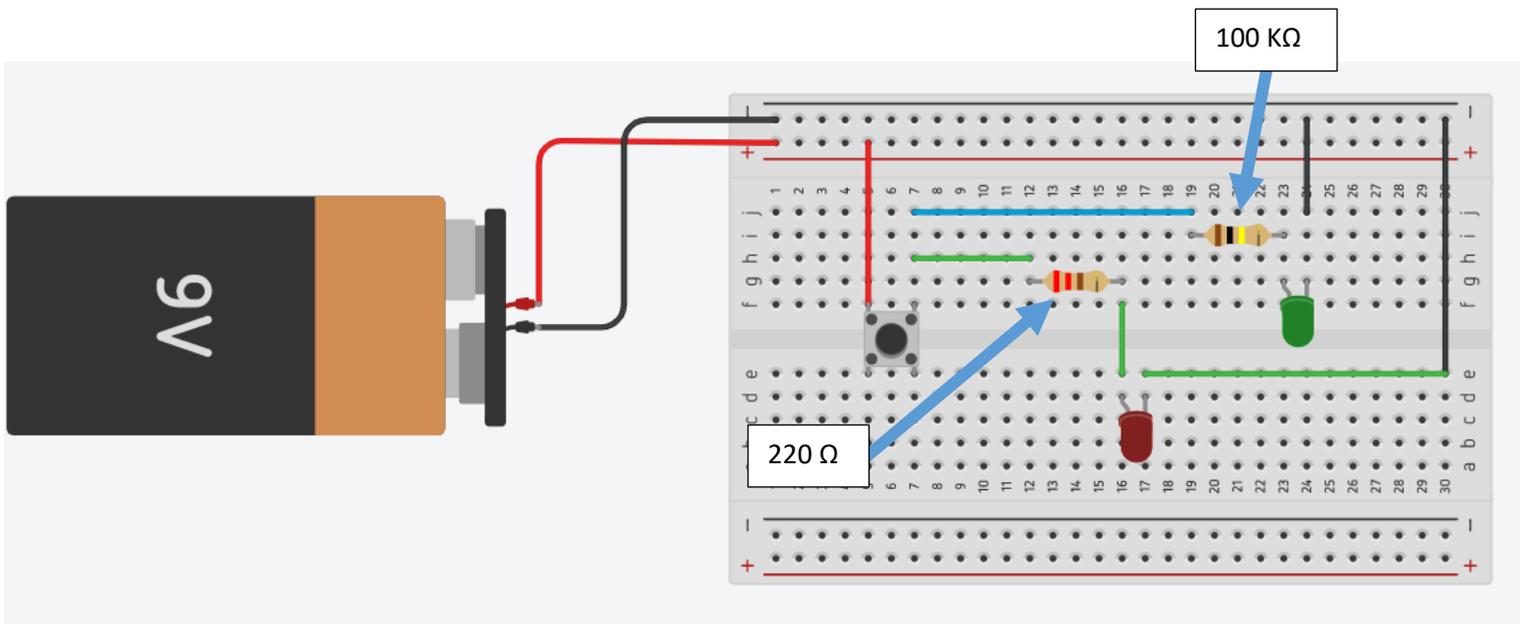
5. Run the Simulation > Press the push button to turn the LED's on > Notice the RED LED is brighter than the Green LED because of the size resistor that is blocking the amount of electrical load being applied to the LED

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