*Norwich Technical High School - Electronics Technology Date Updated:* 

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**TITLE: How to build proper circuits on a Breadboard**

**APPROVALS:**

**Author: Ashlyn St.Germaine Date: 2/8/24**

**Review: Date:**

1. **Revision History:**

|  |  |  |  |
| --- | --- | --- | --- |
| **NAME** | **REV** | **DATE** | **SUMMARY OF CHANGES** |
| **ASG** | **A** | **2/8/24** | **Creation of first draft** |
|  |  |  |  |

1. **Purpose:**
   1. To provide a basic overview of how a breadboard works
   2. Show good practice with breadboarding
2. **Safety:**
   1. Be cautious while using electricity to prevent shocks
3. **Materials:**

* Breadboard
* Wires
* Components (Resistors, Capacitors, Transistors, Chips, etc.)

1. **Procedure:**

|  |  |  |
| --- | --- | --- |
| **Step** | **Procedure** | **Picture** |
|  | **A breadboard has 2 sides, each with 4 vertical rails that separate in the middle and many horizontal rails. These rails transfer power throught them to all the holes in the rail.** |  |
|  | **Wires can be used to redirect where power goes on your breadboard without impacting your circut. When using wires you want to keep them as short as possible and neat. You also want to color code your wires with red positive, black negitve, and a different color for wires in the middle.** | **(Bad)**    **(Good)** |
|  | **When putting components into a breadboard you want to keep them straight and orderly, this will help with organization and identifying issues if they occur.** | **(Good)**    **(Bad)** |
|  | **When placing a chip in a breadboard you want to make sure it is centered between two sides of the breadboard and both sides have their pins connected. If you put the pins on either side of the chip in the same horizontal row the chip will not work and could break.** | **(Bad)**    **(Bad)**    **(Good)**    **(Good)** |