

## How to Build a Single Pole Double Throw Switch

You can build one using a block of wood, a metal strip, three screws, and some washers. It is important that none of the terminals are touching each other.

### Materials

Block of wood, 3 ½" x 4" (made from either 2x4 or 1x4 wood material)

3 wood screws (#8 x ¾")

3 washers to fit the wood screws

3 larger washers

1 (#6 x ¼") machine screw, nut, and washer

3" piece of metal plumbing strap

Christmas light strand (discarded, old, or damaged strand)

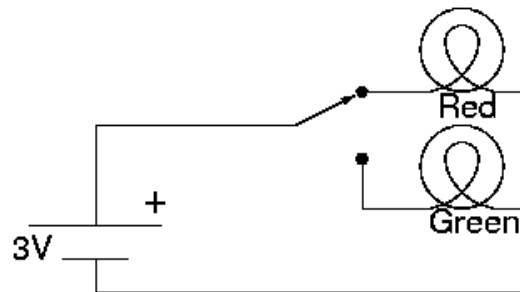
9V battery

Wire strippers

Metal snips

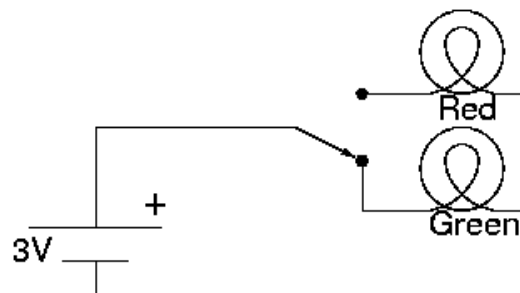
Screwdriver

Here is the circuit diagram for the circuit you are about to build (The "3V" means "3 volts," but you will use a 9V battery):

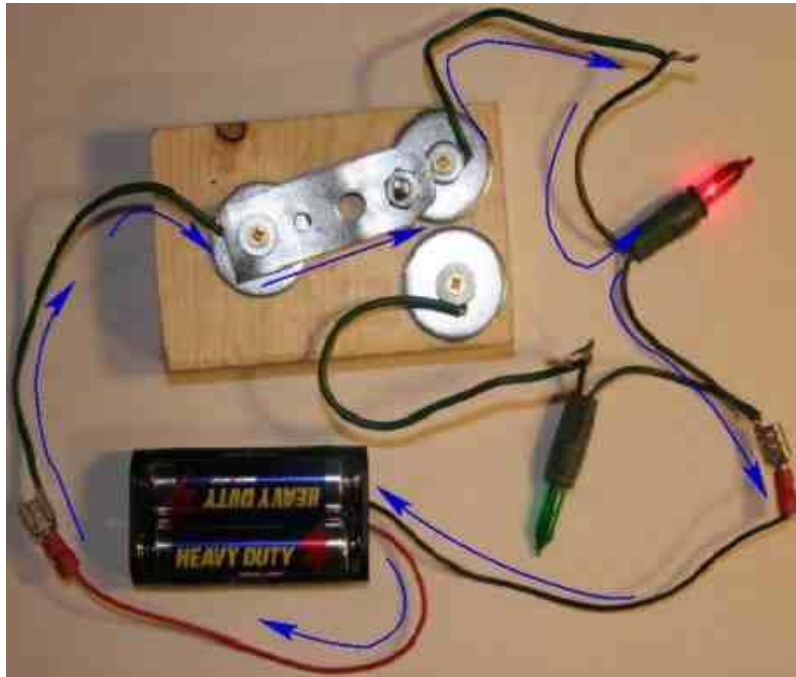


The lines in the circuit represent wires, on the left is a battery symbol, and the two circular things represent lamps (the circle represents a glass bulb, while the loop represents the filament in the bulb that glows).

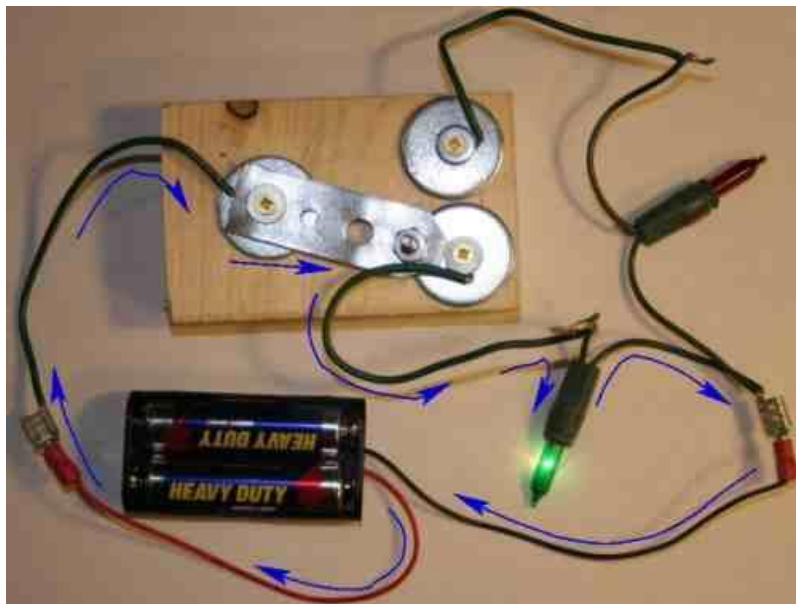
When the switch is in this position, only the red light will turn on. When the switch is placed in the second position, only the green light will turn on.



Build your circuit using the following diagrams:



Arrows show direction of current flow



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You can get the parts to build this switch from your local hardware store. The metal strip can be found in the plumbing section (metal plumbing strap). You can connect stripped wire by twisting the stripped (bare metal) portions together.