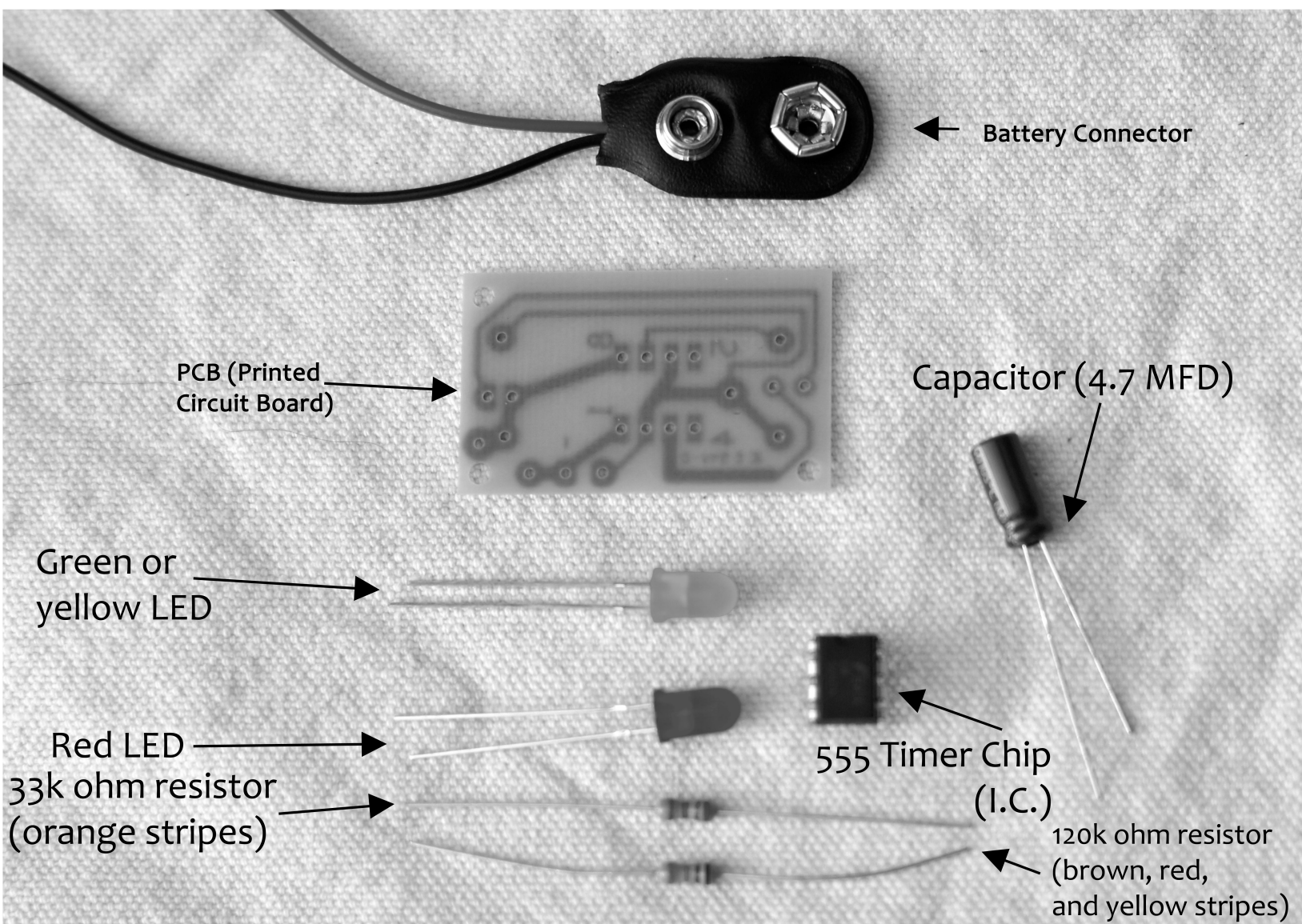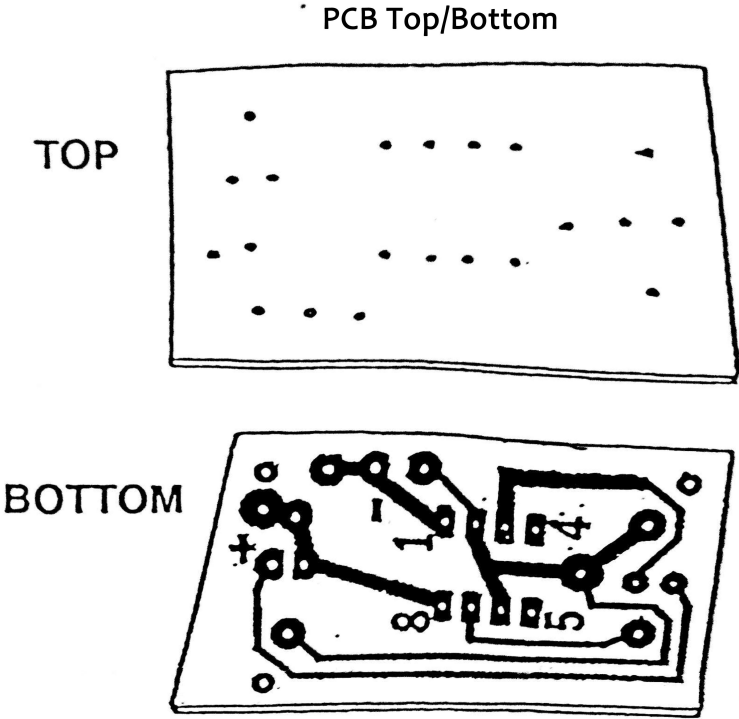# LED Kit Instructions
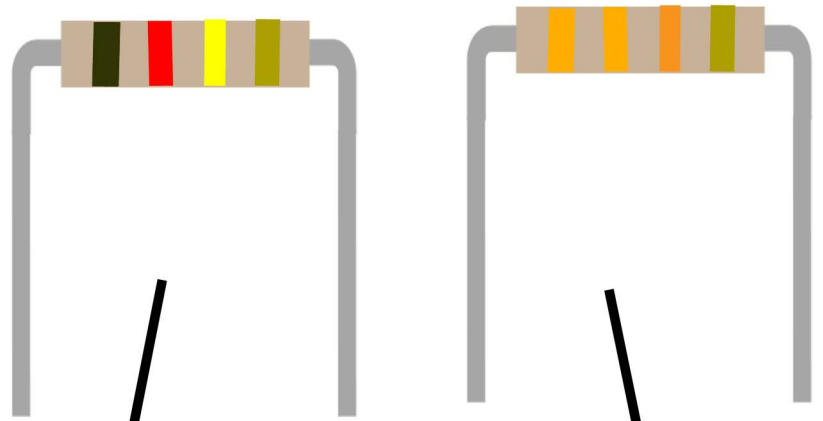
LED kit and original instructions from All Electronics: Allelectronics.com
Additional instructions and illustrations by: Coco K: veryhappyrobot.com

Step 1: Lay out all the parts. Make sure you have everything.

PCB Top/Bottom

TOP

BOTTOM

Battery Connector

PCB (Printed Circuit Board)

Capacitor (4.7 MFD)

Green or yellow LED

555 Timer Chip (I.C.)

Red LED

33k ohm resistor (orange stripes)

120k ohm resistor (brown, red, and yellow stripes)

Step 2.1: Take out the two resistors and the 555 I.C. timer chip. Bend the resistors as shown.

Step 2.2: Insert the chip and resistors as shown. You may have to bend the legs of the chip on the table to be able to easily slide them in. Inspect the drawing carefully and compare it with your board to make sure everything is aligned properly and in the right holes.
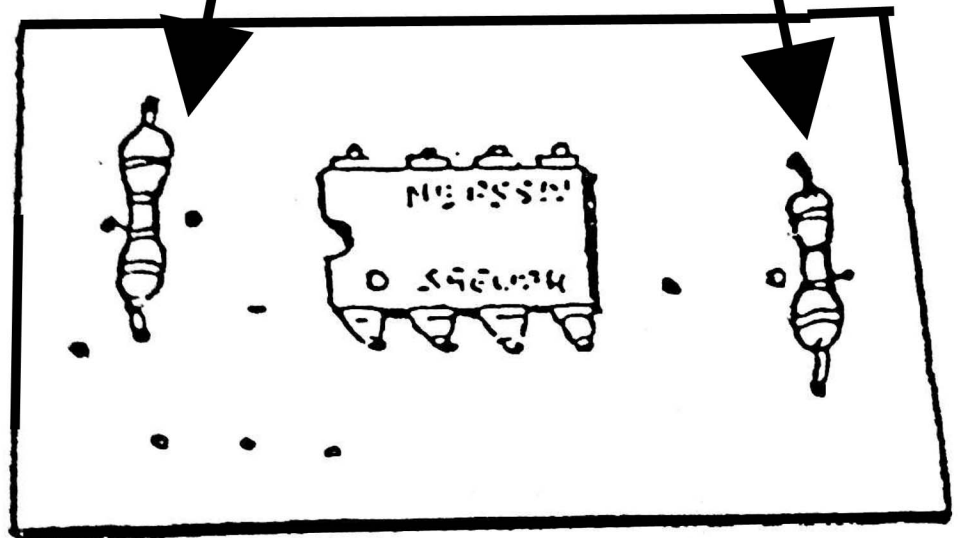
Step 2.3: Bend the legs of the resistors as shown and tape over (optional) the top of the chip to ensure that the components do not fall off the board while they are being flipped over. Flip the board over.

PCB
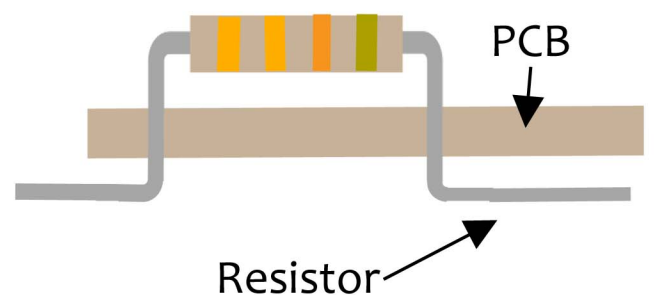
Resistor

Step 2.4: Solder the leads of the resistors. Clip the legs off once they are soldered. Solder the legs of the chip in a random pattern, switching sides every joint. This is to prevent the chip from overheating. Clip the legs from the chip.
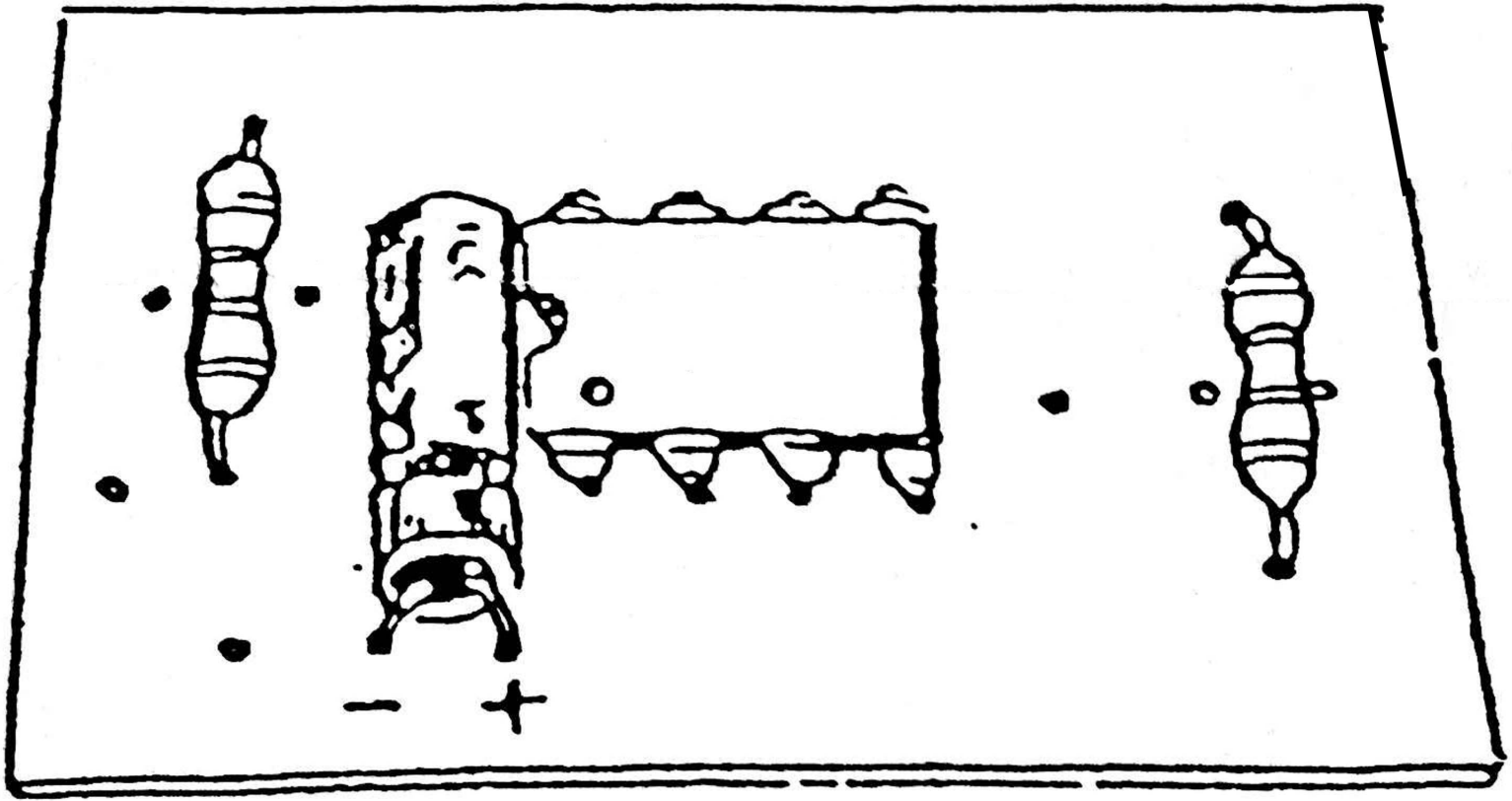
Step 3.1: Locate the negative side of the capacitor. It is the side with the <u>shorter</u> leg and with the line of "--"s running down it.

Step 3.2: Slide the capacitor into the holes with about half a centimeter between the PCB and the capacitor. Bend the capacitor over onto the board.

Step 3.3: Flip the board over and solder the leads, not leaving the iron on either lead too long.
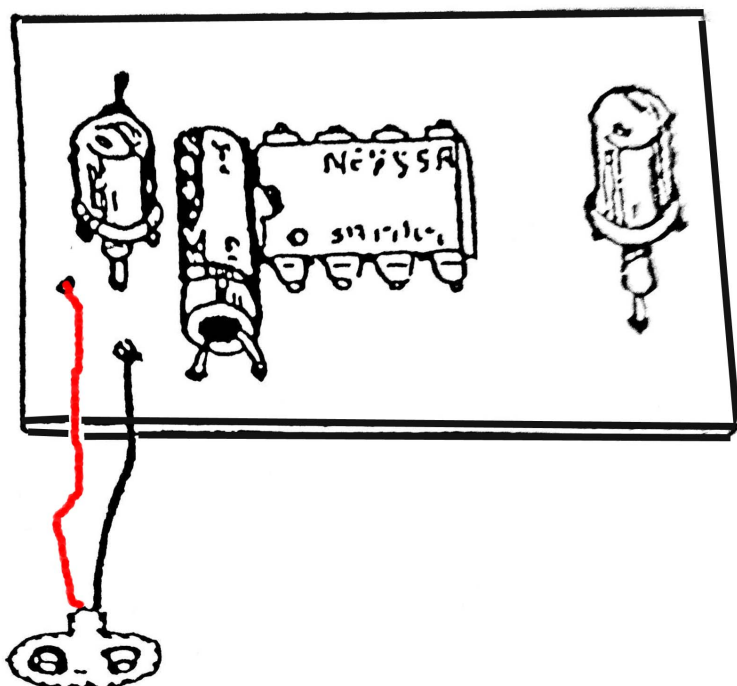
Step 3.4: Clip the leads.
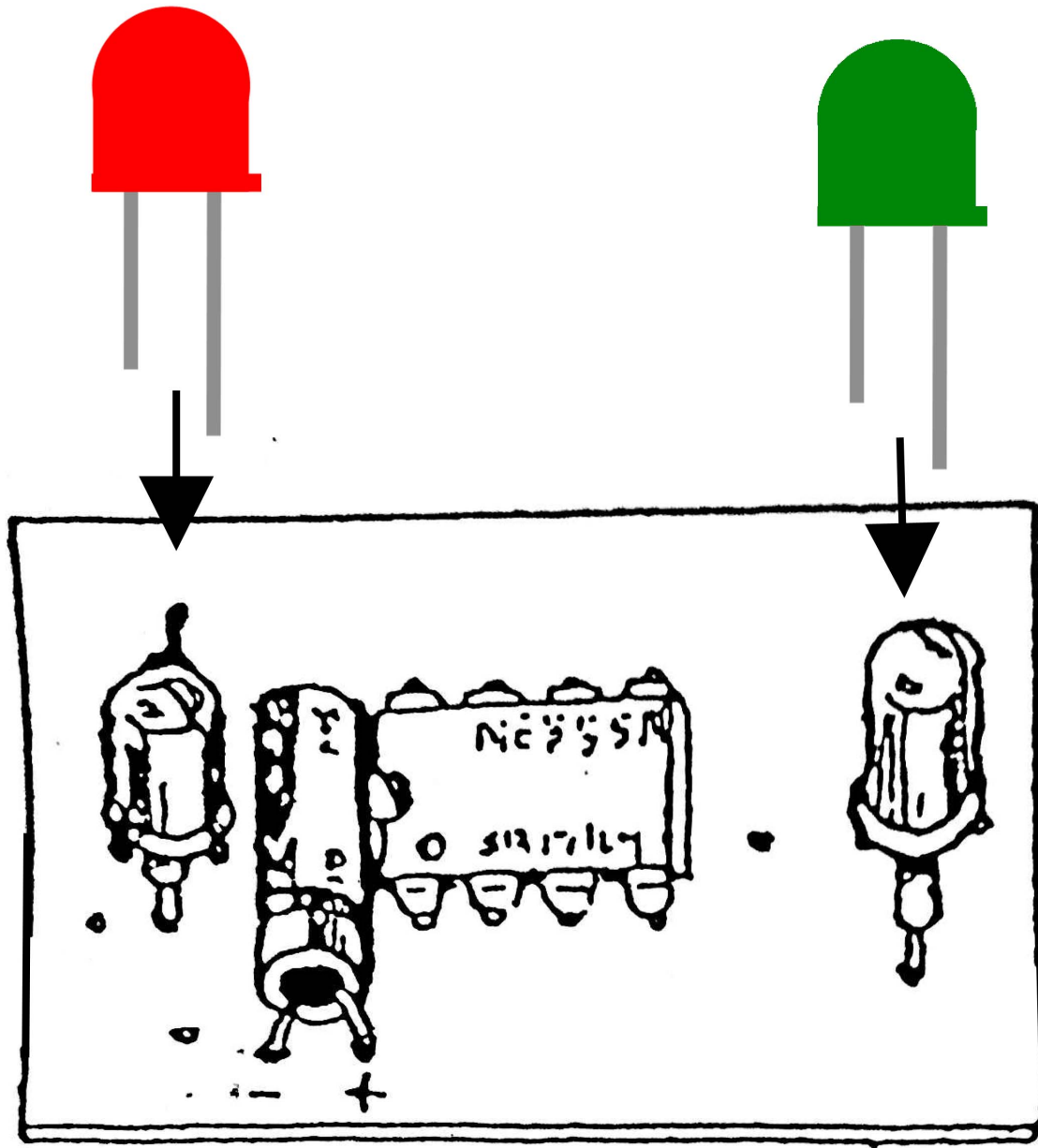
Step 4.1: Find the shorter side of the red LED. Insert the LED in the holes with the shorter side facing the outside of the board (as shown.)

Step 4.2: Find the shorter side of the green LED. Insert the LED in the holes with the shorter side facing the inside of the board (as shown.)

Step 4.3: Bend the legs of the LEDs as you did to the resistors (refer to Step 2.3.)

Step 4.4 & 4.5: Bend and clip the legs of the LEDs.

Step 5.1: Find the 9V battery clip. Slide the leads into the shown holes.

Step 5.2 (optional): Tape the wires down with the exposed metal still in the holes to prevent the wires falling out.

Step 5.3 & 5.4: Solder and clip the leads.

Step 6.1: Cut off the battery's plastic wrapping.

Step 6.2: Plug in the battery. The LEDs should blink on and off. If they don't, check the previous instructions and make sure you inserted the capacitor, the chip, and the LEDs correctly.