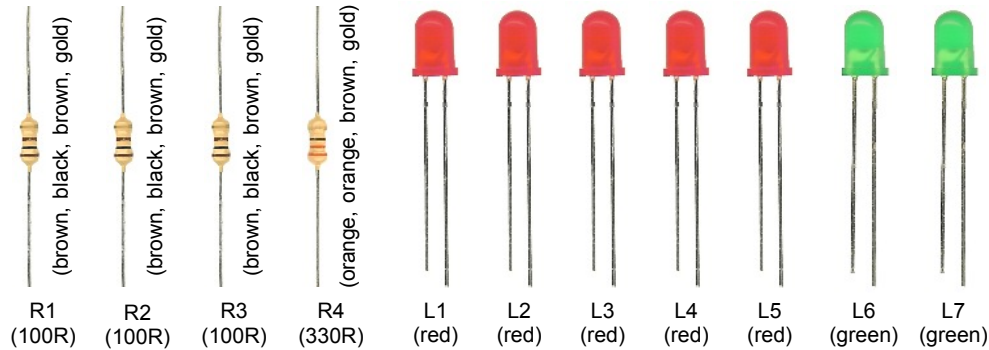


# WE COME IN PEACE!

an alien visitor in their spaceship



Circuit board



Coin cell retainer



IC1  
PIC12F1840



Socket



C1  
10u elect.



Butterfly clip and pin

- 1 Identify the different components using the spotter chart.
- 2 Tell the resistors apart by the coloured bands around their bodies then solder them to the pads on the back side of the circuit board such that they fit within their symbols (R1, R2, R3 and R4). Clip their legs close to the solder joints. They can be fitted either way around. See image overleaf.
- 3 Fit the capacitor to the board within its symbol (C1) and solder the shorter leg to the pad with the – sign. Solder the other leg to the other pad then clip both legs. The shorter leg also has a stripe on the side of the body.
- 4 Bend the legs of the chip socket outwards at right angles then solder it to the back side of the board matching the notch in the socket to the notch in the symbol (IC1). Solder one corner pin first, check the alignment then solder the other pins. **Do not solder the chip directly to the board.** Then carefully bend the legs of the chip inwards a little with your fingers and fit it into its socket matching the small notch in the chip to the notch in the socket.
- 5 Add a small blob of solder to the middle of the metal square on the back side of the board to help make a better connection with the coin cell. Spread the solder around a little with the soldering iron so it is not too high then fit the coin cell retainer to this side of the board matching the marked outline. Solder the two tabs to the board using plenty of solder to make the joints physically strong.
- 6 Fit the lights (L1 to L7) to the front of the board putting the shorter leg into the hole with the line. The shorter leg also has a flattened edge on the rim. Bend the legs away from each other then solder them to the back of the board. Clip the legs close to the solder joints.
- 7 Insert a **CR2032** coin cell into the retainer with the positive (+) side uppermost. The lights should start flashing.
- 8 Fit the pin through the hole at the top of the board and then through your clothing. Use the butterfly clip to hold your badge securely in place. The pin can be soldered in place if you wish.

## HOW TO USE

There is a touch switch located at the base of the board. Touching this part of the board will turn the lights on and off. Remove the coin cell when not using the badge for any length of time.

