

# Tutorial 2: Soldering

## Goals

You know how to solder and have practice in soldering and desoldering electric components.

## Exercises

### 1 Safety Instructions

The soldering iron gets very hot (ca. 300 °C).

- do not touch the metal parts
- always use the soldering iron stand
- always unplug the soldering iron when not needed

Solder contains lead:

- wash your hands after soldering, especially before eating

Soldering fume is poisonous

- do not inhale it, good ventilation is recommended
- no food or drinks near soldering workplaces

Plastic components should not get too hot as they can melt.

### 2 Soldering

Plug in the soldering iron and solder following components. Each group member should do each exercise at least twice. Work together and use your third hand tool!

- Cover the ends of two wires with a thin layer of solder
- Connect those two wires by soldering them together
- Cover the ends of two braided wires with solder. Use solder flux if needed.
- Connect those two pieces of braided wire
- Attach a piece of wire to a perfboard
- Build a simple circuit with an LED, a resistor, a button and two wires for power supply on a perfboard. Show us your circuit before connecting it to the power supply.

### **3 Desoldering**

- Heat each soldered point with your soldering iron and disassemble the parts
- Remove solder from the components with your desoldering pump
- If there is too much solder on the tip of your soldering iron, remove it with your soldering tip cleaner
- Unplug the soldering iron and let it cool down