

# HIMALAYAN MAKERS GUILD

## Activity 8 – Introduction to Soldering

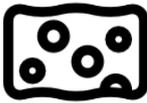
### What is Soldering?

Soldering is the use of molten metal to make permanent electrical connections.

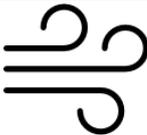
### Why Solder?

- Reliable
- Compact
- Good Conductivity

### Tools

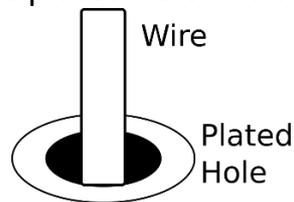
	Solder	A soft metal that melts at a low temperature
	Soldering Iron	Used to melt the solder and heat the parts to be soldered
	Flux	A paste/liquid that, when heated, helps the solder flow and bond to other metals
	Soldering Sponge	For cleaning the tip of the iron

### Safety

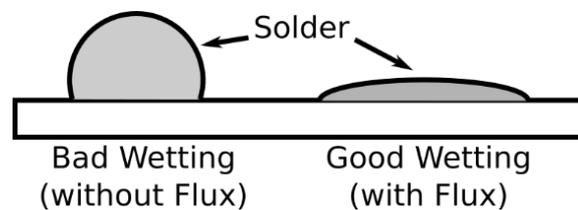
	Wear safety glasses.
	Work in a well ventilated area.
	Only hold the soldering iron while soldering. Otherwise, put it in the soldering iron stand.
	Wash your hands after soldering and do not touch your face while working with solder.

## Before You Start

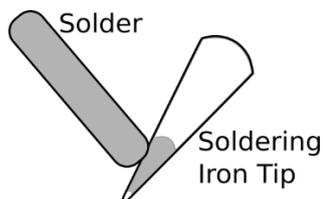
- Put the wire through the plated hole and secure the two parts



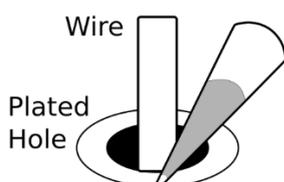
- Clean the parts if they are dirty using isopropyl alcohol
- Put a small amount of flux on the surfaces to be soldered; flux improves the surface **wetting**, helping the solder flow easily



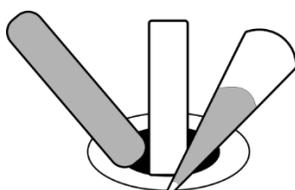
## Making a Solder Joint



Tin the soldering iron tip by melting solder on it, then wiping off the extra solder onto the sponge. This gives the solder tip good wetting.



Touch the side of the soldering iron to the joint so that it contacts both the wire and the plated hole.



Apply the solder so that it touches the wire and the plated hole on the side opposite where the iron is touching; hold it there until the solder melts and flows to cover the plate and wire.



Remove the solder wire from the joint.



Remove the soldering iron from the joint.