## Health & Safety Precautions for soldering
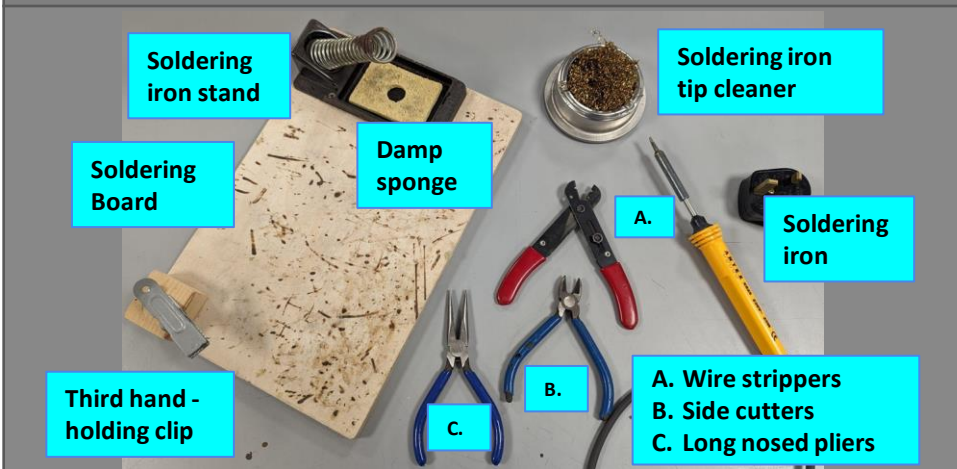
| To avoid burns from soldering iron | • Only hold by handle of soldering iron<br>• If a burn occurs, straight under cold running water for 5-10 minutes. Another student to notify teacher.<br>• Soldering iron in spring when not in use (but spring made of metal, so this will also get hot!!! Do not touch!)<br>• Never leave soldering iron laying on board<br>• If soldering iron is dropped, let it fall<br>• When putting soldering irons away give people space to allow them to return safely to holder<br>• If H&S instructions ignored, no warning, straight to RFL |
|---|---|
| Other H&S precautions | • Always wear goggles when soldering and long hair tied back<br><br>• Only use small amounts of solder, this will create a better solder joint but also limit the vapour coming off when soldering and reduce risk of spitting<br>• Always hold circuit board in clip on soldering board<br>• Focus on task being completed, do not become distracted<br>• Ensure room is well ventilated by opening doors and windows |

## Soldering Equipment



Soldering iron stand
Soldering iron tip cleaner
Damp sponge
Soldering Board
A.
Soldering iron
Third hand - holding clip
B.
C.
A. Wire strippers
B. Side cutters
C. Long nosed pliers

| Component Name | Circuit Symbol | Input, Process or Output? | What does it do? |
|---|---|---|---|
| Push to make switch |  | Input | Allows current to flow through it when pressed |
| Tilt Switch |  | Input | Allows current to flow through it when tilted |
| Light Dependent Resistor/ LDR |  | Input | Has a resistance that changes depending on the light level |
| Infrared Sensor |  | Input | Detects infrared light coming from objects within its range |
| Light Emitting Diode/LED |  | Output | Produces light when current flows from the anode to the cathode |
| Buzzer |  | Output | Produces a buzzing sound when current flows through it |
| Speaker |  | Output | Turns electronic signals into sounds |
| Motor |  | Output | Produces rotary motion when current flows through it |

### System Block Diagrams

Input — Light Sensor e.g LDR
Process — Micro controller
Output — LED
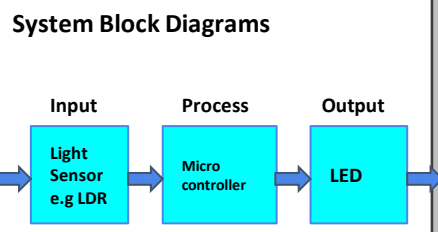
Electronic systems can be represented as block diagrams
Block diagrams give a 'top down' overview of the system and how it will work.
In the example a light sensor e.g LDR detects the light level in a child's bedroom. The microcontroller could be used to turn the LED on for a timed period when it gets dark.