

Knowledge Organizer – Year 8 Steady Hand Tester/Engineering



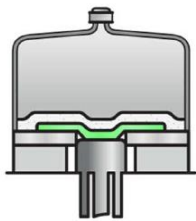
Soldering Iron



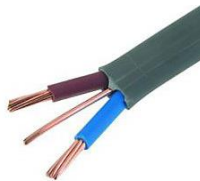
Smoothing Plane



'Choc Bloke'
(Electrical
connector)



Former



Cable Sleeve



Buzzer

TOOLS & COMPONENTS

KEY VOCABULARY

Soldering Iron	Parallel Turning
Copper Sleeve	Former
Chamfer	Reforming
Deforming	Wasting
	Fabrication

You should be able to spell and explain the meaning of each of these terms by the end of this rotation.

A SMART Material **changes** in **response** to its **environment** and changes **back** again

Material	Will change due to	Example
Shape memory polymers	Temperature/ heat over 63C	Plastic cast –broken arm
Thermochromic materials	Temperature	Childs Thermometer Baby Spoons
Piezoelectric materials – 'Transducer'	Force or movement	Battery charger e.g. in a shoe Testing equipment
Aroma Pigments	Released due to scratching	Perfume in magazines

Categories of Manufacturing Processes:

Whenever something is manufactured (made/shaped) it can be put into one of FOUR categories;

- **WASTING** - Shaping by wasting means cutting away material to leave the desired shape.
- **FABRICATION** - involves joining separate pieces of material, this can be either permanent or temporary.
- **DEFORMING** -is a method of shaping materials by either bending in a straight line or curve.
- **REFORMING** is a method of shaping materials which changes their overall appearance by first melting into a paste or liquid, then hardening

Centre Lathe Operations:



Facing Off	Parallel Turning	Taper Turning
Produces a clean surface after the metal has been sawn (leaving a rough surface)	Used to reduce the diameter of the metal rod	Used to produce a chamfer or point at one end of the metal rod