

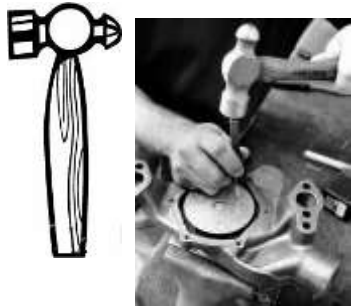
**MetalWork**

**[TeachersUnderground.site.io](http://TeachersUnderground.site.io)**

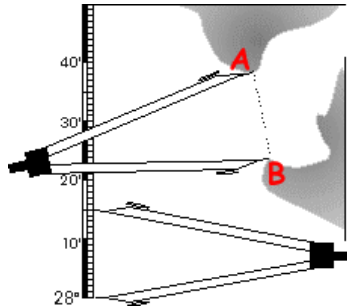
Aim:- learn to use all metal work machines and join metals... while making a candle drip catcher.

# Basic Metal Work Tools - For marking out

**Ball Pein Hammer**



**Dividers**



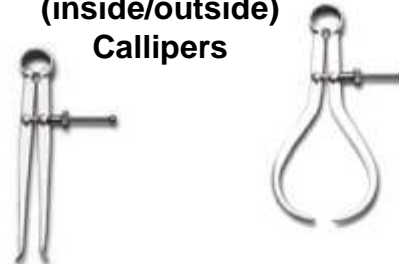
Dividers are used to transfer measurements like in the picture opposite

**Tri Square**



A Tri Square is used to mark straight lines or 90° angles

**(inside/outside) Callipers**



**Inside callipers** are used to measure the inside of an object, in this picture the inside of a cylinder



**Outside callipers** are used to measure the outside of an object, in this example the thickness of a rectangular piece of metal.

**Centre Punch**

The Ball Pein hammer can be used with the centre punch to create force, also the ball of the hammer can be used to shape metal



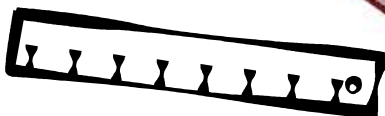
The Centre punch is used to make an indentation on metal that can then be used to drill through, this stops the drill bit from slipping, ensuring that the drill drills where you want it.

**Scriber**



A scriber is used like a pencil marking out measurements onto the metal by making a small scratch on the surface.

**Ruler**



# Abrafile



The abrafile has a toothed, circular blade that fits into a frame. Coarse, medium and fine grades are available. Abrafiles are used to cut out curves and rounded shapes from sheet metal.

# Engineers Vice



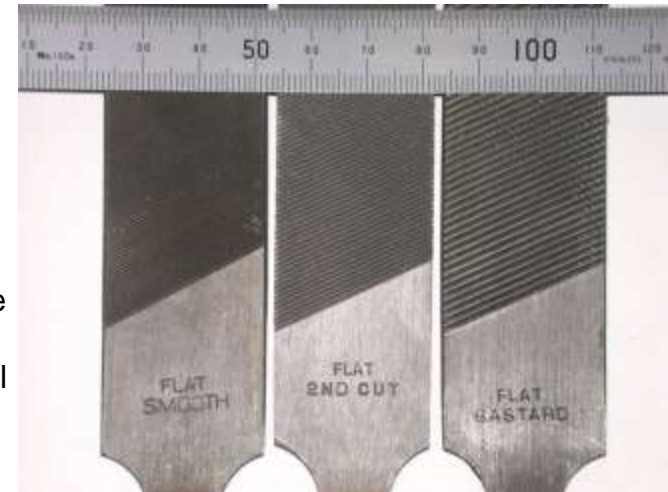
When sawing saw as close the vice as possible this stops excess vibration being caused. Guide the saw with your finger slowly cut a groove in the metal that the blade can follow.

# Hacksaw



Hacksaws & junior hacksaws produce straight cuts in metal. Both have replaceable blades held in tension in the saw frame. The teeth face away from the handle and cut on the forward stroke.

# Files



Files come in many shapes and sizes they can be used to clean up, shape or resize the surface of metal