

Knowledge Organizer – Year 8 DT

There are different kinds of *adhesives* for different jobs.

- **P.V.A.** – Poly Vinyl Acetate – best for joining 2 pieces of wood together
- **Epoxy** – a *thermosetting* resin that can be used to bond most types of material
- **Contact Adhesive** – a glue type that creates a tacky bond on both surfaces to be joined. It can be used with most materials.

Engineered Boards:

Engineered Boards are man-made materials.

- **MDF (Medium Density Fibreboard)** – made from pulping wood into tiny fibres, mixing them with glues and rolling the mix into sheets.
- **Plywood** – Made up of thin sheets of wood. The grain in each layer always runs at right angles to the previous layer for strength. There is always an *odd number of layers*

Plastics Focus – Acrylic

Acrylic is a *thermoplastic* – this means we can melt and reshape it with heat, unlike *thermosetting* plastic

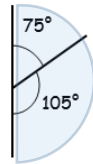
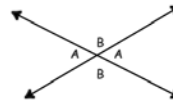
It's cheap, multi-coloured and easy to work with.

Metals Focus – Metal Treatment

- *Tempering* helps remove brittleness and improve toughness of a metal
- *Annealing* removes hardness and makes a metal easier to work with & machine

GEOMETRY:

Opposite angles will always be equal when 2 straight lines cross

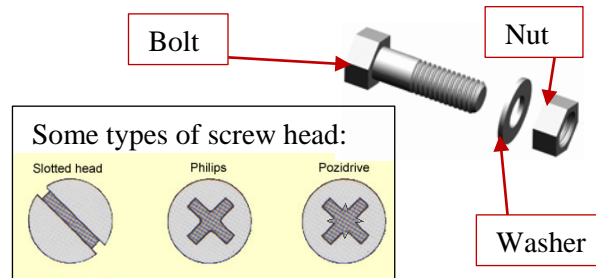


Angles will always add up to 180° on one side of a straight line

Angles inside a full *circle* will always add up to 360

180 will always add up to triangle Angles in a

Types of screw + fastening



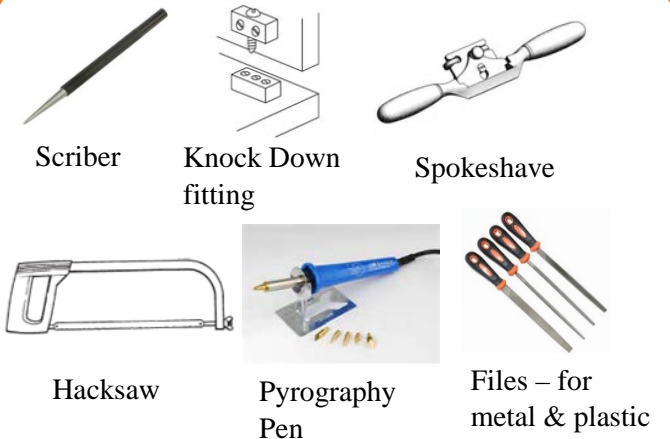
Surface finishes – why?

Protect our work. Help waterproofing. Helps prevent metals oxidizing, improving their lifespan. Can help improve the appearance & value of our work.

Sustainability:

The aim is to look after things to help them last as long as they should.

This means not wasting resources like wood and plastic, and helping the environment by doing this.



**TOOL
TYPES**

**> BE SURE TO LEARN
THEIR NAMES AND USES!**

Materials Properties:

Material properties are how we describe the characteristics of a material, for example:

- **Hardness:** Ability to withstand surface indentation and abrasive wear or scratching
- **Elasticity:** A material's ability to return to its original size and shape when after a deforming stress is removed – like a rubber band!

KEY WORD FOCUS:

Dowel	Chamfer
Radial Arc	Acrylic
Thumb Gauge	Draw/Cross Filing
Ergonomics	Alloy
Wasting Process	Tempering

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