

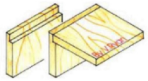
Knowledge Organiser AQA Design & Technology 8552

1: Joining Methods

Wood joints can be either permanent or temporary depending on the type and if glue is used.

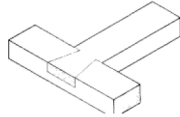
Permanent:	Temporary:
When we do not want to take the pieces apart again	When we will, or might need to take pieces apart again
Glues, welding, rivets	Screws, bolts, nails

1.1 Wood joints



Lap Joint

Mortise + Tennon Joint



Dovetail Joint



Finger Joint



Dowel Joint

2. Scales of Production

One off: when you make a unique item

Batch: when you make a few/set amount

Mass: when you make thousands

Continuous: open ended production

3. Adhesives

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.

4: Materials

4.1 Woods:

Hardwoods:	Softwoods:
Beech	Scots Pine
Oak	Cedar
Ash	Spruce

4.2 Engineered Boards

Engineered boards are manmade materials usually made by mixing wood chips and glues to make wooden sheets.

Examples:

Medium Density Fibreboard (MDF)
Chipboard, Plywood and Hardboard

4.3 Plastics

Plastics are made of polymers, and are mostly refined from oil. There are 2 main categories:

Thermoplastics	Thermosetting plastics
Acrylic	Urea Formaldehyde
Polypropylene (PP)	Melamine Formaldehyde
High Impact Polystyrene (HIPS)	Epoxy Resin

4.4 Metals

Metals are hard and usually shiny, containing one or more elements dug and refined from the ground

Ferrous metals are any metal that contains iron and will rust

Non-Ferrous metals do not contain iron and will not rust

Alloys are metals made from a mix of 2 metals – brass is made of copper and zinc.

Composite materials are a mix of 2 different types of material to get the best qualities from each – eg: GRP (Glass Reinforced Plastic)



Try square

Bench Hook

Vice

5: TOOLS



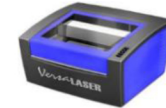
Router Table



Mallet



PVA Glue



Laser Cutter



Chisel

Tenon Saw

6: Surface Finishes

Finishing is usually one of the last stages of making a project. It will usually involve sanding and applying a surface coating to **protect** your material and **improve its visual appearance**.

Some examples:

Paint, Stain, Varnish, Oil, Danish Oil, Wax, Polish & Dip Coating.

7: KEY WORD FOCUS

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

CAD	Computer Aided Design
CAM	Computer Aided Manufacture
CNC	Computer Numerical Control