Designing

Design	a plan or drawing produced to show the look and function or workings of an object before it is made. To imagine and create a product to be made.
Functionality	**The suitability of a product, how the purpose of the product affects the design .**
Tolerance	the allowable difference between the intended size of a design and the final part or product

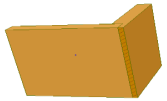
Explore — Properties of woods

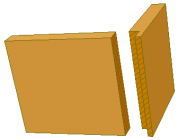
Materials properties	the things that can be observed in materials, colour ,weight , rigidity, finishing properties.
Working properties	the things that can be tested in materials, e.g. strength, and also the way that materials can be shaped using tools and processes
Process	any manufacturing method, e.g. sawing, drilling, chiseling , planning.
Grain	The natural marks in the wood that show the growth rings, recognising different wood has different grain patterns.
Suitability	How to make the correct choice of material for its intended use.
Stability	a property that the wood has to resist warping or damage by moisture.
Joining methods	Using an appropriate method to join wood to gain maximum strength eg. Wood joints.

Materials

timber	One of mans oldest and most reliable, renewable building materials	***Materials made from trees***
softwoods	**Types of wood that come from coniferous trees, fast growing, sustainable, easy to work and inexpensive. These types of trees grow throughout the year.**	***Redwood Cedar Scots pine***
hardwoods	**Types of wood that comes from deciduous trees, slow growing, durable, beautiful grain patterns, expensive, mainly used to make furniture.**	***Oak, beech, mahogany are examples***
Man made boards	**Made from timber but are manufactured in factories, these boards are available in large sheets, use wood fibres or thin layers of hardwoods , they are stable , rigid but usually require a decorative finish (veneer)**	***MDF, plywood, chipboard are examples***

Marking and cutting Halving joints	**Accurate marking out of joint using steel rule and try square. Removing waste wood using Tenon saw, tidy up joint using pairing.**
Quality control	**1. Checking joints for square**
Quality assurance. 4 key points	**2. Checking shoulders match up** **3. Checking shoulders are square.** **4. Dry run assembly before gluing.**
Assembly of carcass	**Application of glue, cramping up, checking carcass is square using try**





Manufacture

Marking out	using a pencil to show where you are going to cut or shape the material you are working in.	
Wood Vice	a holding device used with wood to keep the material secure while working on it (e.g. cutting ,chiseling)	
Tri square	**An L shaped marking tool to ensure right angle lines around the wood**	
Wood plane	the sharp blade tool used to remove a fine layer of surface wood, removes rough fibers, returns wood to its smooth pristine state.	
Sanding disc	A machine that rotates a disc of glass paper which removes wood efficiently,	
PVA glue	An adhesive which permanently joins wood, white in colour, dry's clear, takes an hour to dry properly	
Bevel Edge Chisel	A very sharp tool used to slice or trim wood to size (pairing)	

Critique

Design Criteria	**A list that you create or use when making a product, which outlines what the product must do, look like or be made from**
Specification	**A detailed list that clearly outlines the criteria for specific products**
Evaluation	**You should use your specification when evaluating products. This is to make sure you have made your product successfully. You should get other peoples' opinions about your product**

Vocabulary used in product design - shaping, waste, properties, timber, accuracy, square, quality finish,

Health and Safety - Wear protective clothing. Tie long hair back. Listen to instructions. Use the correct technique. Use a vice to secure material before cutting or shaping. Working with consideration for others. Be calm and sensible at all times. Tidy up after you have finished

Year 7 Product Design

Knowledge Organiser: utility box