Mechanical property	Definition
Durability	The ability of a material to withstand damage or wear
Ductility	The ability of a material to deform by bending, twisting or stretching
Strength	The ability of a material to withstand forces without bending or breaking
Malleability	The ability of a material to deform without cracking
Stiffness	The ability of a material to hold its shape without bending
Brittleness	When a material cannot absorb energy and will result in the material breaking into pieces
Hardness	The ability of a material to withstand indentation, scratching and wear
Toughness	The ability of a material to withstand impact without breaking

Physical property	Definition
Aesthetics	The appearance of a material, including colour and feel
Density	The amount of material contained in a set volume
Conductivity	The ability of a material to hold heat in or out (thermal) or the ability
Corrosion	The breakdown of a metal due to a reaction with water
Size	The measured dimensions of a material in two or three dimensions
Magnetic	The ability of a material to be attracted to a magnet

KEYWORDS	
Hardwood	Comes from a tree with broad leaves
Softwood	Comes from a tree with needle-like trees and seeds in a cone
Grain	Fibres run the length of a tree trunk, which gives its strength and pattern
Evergreen	A tree that keeps its leaves all year round
Veneer	A thin slice of wood (1mm thick). Used to decorate and to make plywood
Hard	How well a material stops deformation, indentation and penetration
Tough	How well a material can handle being hit
Durable	How well and long a material lasts
Alloy	A mix of two or more metals or elements with improved properties and traits
Ductility	Can deform by bending, twisting, stretching but not breaking. ^ with temperature
Malleability	Can permanently deform in all directions without fracture. ^ with temperature
Synthetic Polymer	Made mostly from oil, referred to as plastic
Thermoforming	Can be reshaped by application of heat; can be recycled
Thermosetting	Cannot be reshaped/reformed by reheating; cannot be recycled
HIPS	High impact polystyrene – most commonly used for vacuum forming
GRP	Glass reinforced plastic: A composite of polyester resin and glass fibres
Insulator	A material with low conductivity preventing electrical current or heat to flow
PVC	A thermoplastic containing chlorine and carbon
Paper	Flat material made from natural fibres weighing less than 220gsm
Board	Thick paper or layers of paper more than 220gsm in weight
Fibres	Thread like elements that can be formed into yarns and fabrics
Fabric	A length of flexible material constructed from fibres
Staple	The length of a fibre
Monomer	A molecule that can be bonded to similar molecules to form long chains

TIMBERS							
SOFT		HARD				MANUFACTURED	
PINE	CEDAR	MAHOGANY	BEECH	BALSA	OAK	PLYWOOD	MDF

METALS					
FERROUS			NON-FERROUS		
CAST IRON	STAINLESS STEEL	MILD STEEL	ALUMINIUM	BRASS	COPPER

POLYMERS				
THERMOFORMING			THERMOSETTING	
ACRYLIC	HIGH IMPACT POLYSTYRENE	BIOPOL	POLYESTER RESIN	UREA FORMALDEHYDE

PAPERS AND BOARDS					
PAPERS			BOARDS		
COPIER PAPER	CARTRIDGE PAPER	TRACING PAPER	FOLDING BOXBOARD	CORRUGATED CARDBOARD	SOLID WHITE BOARD

FIBRES AND FABRICS					
NATURAL FIBRES			SYNTHETIC FIBRES		
ANIMAL (e.g. wool)	PLANT (e.g. cotton)		POLYESTER	ACRYLIC	
WOVEN TEXTILES		NON-WOVEN TEXTILES	KNITTED TEXTILES		
PLAIN WEAVE (calico)	TWILL WEAVE (denim)	FELTED WOOL FABRIC	BONDED FIBRES/WEBS	WARP-KNITTED	WEFT-KNITTED