Design & Technology

Year 10

Term 1

Material Properties		
1	Absorbancy	The ability of a material to absorb light, heat or moisture
2	Corrosion resistance	The ability of a material not to be damaged by its environment
3	Density	Mass of a material per unit volume.
4	Durability	The ability of a material to last a long time without being damaged.
5	Elasticity	The ability of a material to return to its original shape when a force on it is removed.
6	Hardness	The resistance of a material to wear and abrasion.
7	Malleable	Pliable, the ability of a material to be pressed or forced into shape without breaking.
8	Plasticity	The ability of a material to be shaped or moulded.
9	Stiffness	How rigid an object is.
1	Strength	The ability of a material to withstand a force that is applied to it.
1	Toughness	The ability of a material to absorb an impact without rupturing.

	Terms r	elated to Stakeholder
1	Primary Stakeholder	The main person or user group a product is designed for
2	Wider Stakeholder	The wiser audience who have an invested interest in the product being developed – manufacturers, retailer – online or shops, charities, councils, clubs or fan groups, etc.
2	Anthropometric Data	Measurements taken from many different people and many different limbs or body areas. Collated in age groups and 5 th , 50 th and 95 th percentiles.
3	Ergonomic Data	Measurements of the environment a product will interact with, ensuring the product is fit for purpose.
4	Ethical Design	Designing with regard to people's principals, beliefs and morals.
5	End User	The person or people that will use a product when it is completed.
6	Exclusive design	Design of products for a limited audience.
7	Inclusive design	Design of products that can be used by everyone without special adaptations.
8	Product Analysis	Analysing existing products to gain useful information and opportunities for your own designs
9	User Centred Design	A design approach where the needs and wants of the end user are considered extensively at each stage of the design process.
1 0	Viability	When a product is not only purchased initially but performs well enough for it to be recommended to others, and for sales to continue.

	Manufacturing Considerations				
1	Economies of Scale	A saving in cost per product gained by making a higher number of products.			
2	One-off/ Bespoke Production	Making a single product to a customer specification.			
3	Batch Production	Making a series of groups of identical products.			
4	Mass Production	Making the same product on a large scale.			
5	Just-in-Time Manufacturing/ JiT	Manufacturing system where items from suppliers are delivered only when they are needed.			
6	Lean Manufacturing	A systematic approach to eliminate all forms of waste in manufacturing.			
7	Rapid Prototyping	An additive manufacturing technology, such as 3D printing, used to produce a 3D product in a single operation from a CAD model.			
8	Jig	A custom-made tool designed to achieve accuracy, repeatability and interchangeability during product manufacture.			
9	Pattern	A type of template that is used to trace the shape of parts of a garment onto fabric before it is cut.			
1 0	Standard Components	Common parts that are commercially available in specific sizes. E.g nuts and bolts, rivets, hinges, etc			
1 1	Template	Used to draw a shape on material which can then be cut around.			
1 2	Tolerance	The permissible limits of variation in the dimensions or physical properties of a manufactured product or part.			
1	Circular Economy	A model that aims to increase the use of renewable energy and design products that are 'made to be made again'.			
1 4	Lifecycle Assessment/LCA	A tool for systematically evaluating the environmental impact of a product at all stages of it's life.			