

Design and Technology Vocabulary

Aesthetics	The study of the shape or form of every day products; as in ... “That product is aesthetically pleasing”
Analysis	Looking in detail at the design problem, what the problem involves what needs to be looked at (researched), and who needs to be consulted for advice.
Anthropometrics	The measurements of humans, e.g. heights, arms / leg lengths, hand widths, head sizes, or similar.
Batch Production	The production of products in ‘batches’. E.g. batches of different types of bread products ...brown then white bread ... large and then small loaves, etc. batches of red china mugs, then blue ones, etc. A batch of benches for a park, or a batch of children’s seating for a McDonalds restaurant.
BSI	British Standards Institute has responsibility of devising standards that particular products must meet, for a variety of reasons. For example toys must be tested to BS EN 71, for safety reasons. The full definition is at http://www.bsieducation.org/Education/14-19/default.shtml
CAD	Computer software that helps the designer to create designs, plan, technical drawings and 3-D images of the design being explored.
CAM	Computer software programs and Computer Numeric Control (CNC) machinery, such as a milling machine lathe or vinyl cutter machine, that allows CAD produced designs to be made by the CAM machinery.
Compressive strength	The ability to resist a pressing force, e.g. concrete or cast iron.
Conductivity (Electricity)	The ability of a material to conduct electricity e.g. copper, aluminium, gold.
Conductivity (Heat)	The ability of a material to conduct / transmit heat, e.g. copper.
Corrosion	The tendency of a material to rust (iron/steel) or corrode (aluminium)
Corrosion Resistance	The ability for a material to resist corrosion / discolouring /rotting, e.g. copper, lead, gold, silver.

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DTP (Desk Top Publishing)	Computer software that is designed for producing leaflets, booklets and text-based documents.
Ductility	The ability of a material to be drawn / stretched pulled into thin strands, e.g., copper electrical cables.
Durability	The ability of a material or product to last a long time. The ability to do its job for a long period.
End User	A person who uses the product for its intended purpose, but may not have bought it.
Ergonomics	The study of 'Man in his Environment', e.g. work space, activity space, sitting, working heights or similar.
Flexibility	The ability of a material to bend and change shape, without cracking or breaking.
Gantt Chart	A method of planning that places tasks down the left hand side of the page and dates across the top, to enable you to see what needs to be done by when.
Malleability	The ability of a material to be bent, shaped, hollowed, etc. into a complex shape, e.g. steel sheets pressed into car body panels or copper sheet shaped into hot water cylinders.
Media	The general term for paper, card, paint, printer print-outs and other materials that are used in producing design work and products (mainly in Graphic Products).
Manufacturer	A person or company that will make the product.(See also One OFF production, Batch Production and Mass Production)
Market Research	The process of finding out what customers require from a product, e.g. questionnaires and interviews.
Mass Production	The continuous production on one product: e.g. motor cars, TVs, aluminium cans, plastic vending beakers, etc. The product may be produced around the clock and once it has commenced, the (sometimes automated?) machinery is made maximum use of.
Model	An attempt to build a version of your design to see if it works, if it is the right size or if it looks good. This could be done using CAD.

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One-off production	The design and manufacture of one product only, e.g. a sculpture for a shopping centre or a signboard for a shop front.
Patent	A form of Intellectual Property Protection that applies to the function of a newly invented product.
Pattern	(See Template)
PCB	Printed Circuit Board
Planning	The process of sorting out how the design work will be done, how the product will be made, which processes get done first and the time needed for all of these activities.
Plasticity	The ability to change shape, to deform or to mould. (Similar to malleability).
Product Designer	A person who designs the overall shape and appearance of a product and concerns themselves with the aesthetics of the product, shape size, form etc.
Product Life	The period of time that a product is designed to last. (Related to planned obsolescence).
Prototype	The first model made to decide if the design works, if it is the right size, comfortable, safe, attractive or suited to the user's needs. This allows changes to be made, before the final version is made.
Quality Assurance	The guarantee a company can give that their product will be reliable based upon the reliability of the tests carried out when the product was made.

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Quality Control	Individual tests carried out to check the product is being assembled correctly during production.
Questionnaire	A list of questions that are given to potential customers to find out their needs and preferences.
Recycle	Recycling involves processing used materials into new products in order to prevent waste.
Reduce	Reduce everything about the product. Reduce the size of the product making it less of an impact on the environment. Reduce the energy consumption when making the product. Reduce the number of batteries in the product.
Refuse	Refuse to use certain materials because they are not sustainable. Refuse to buy products that are not made ethically. Refuse to make products that are not sustainable.
Registered Design	A form of Intellectual Property Protection that applies to the outward appearance of a product. For example the glass coke bottle design was registered in 1937. Design registration lasts up to 25yrs.
Repair	Repair the product, don't throw it away. Graphics – facelift. Systems – fix it. Design for disassembly so parts are not thrown away.
Research	Gathering information to help with design work. The process of looking at existing ideas, designs and listing good and bad features. Gathering other information that will assist with design work.
Retailer	A person who sells products through shops directly to consumers.
Rethink	Designing products by “re-thinking” about the needs and wants for the product. Is the product REALLY needed? Is the product ONLY wanted, but not needed. Re-thinking the types of material to make the product.
Reuse	Reuse the product when it has come to end of its lifecycle. Reuse food. Rechargeable batteries. Reuse textiles. Reuse containers. Reuse the product in some way. Don't throw it away

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Rigidity	To make a product or structure stiff and resist deformation
Six Rs of Sustainability	Sustainability can be refined down into 6 'R's those being 'Refuse', Rethink, Repair, Reduce, Reuse, Recycle.
Shelf life	The period of time a product remains safe to sell and / or safe to eat.
Smart Material	Smart materials are materials that have one or more property that can be significantly altered in a controlled fashion by external stimuli, such as stress, temperature, moisture, pH, electric or magnetic fields. E.g. Nitinol Wire, Thermochromic pigments, Thermochromic film.
Star diagram	A diagram that compares the good and bad features of a product.
Stiffness	(See Rigidity)
Strength	The ability of a material to resist pressure / loads.
Sustainable Design	Designing a product using the philosophy of RETHINK, REFUSE, REDUCE, REUSE, REPAIR, RECYCLE in order to reduce the use of energy and environmental impact of products. (each is defined in this glossary)
Target Group	When producing new products, the likely purchaser or user's needs and preferences are considered by the designer and manufacturer.
Template	A paper or card cut-out showing the shape of a product. Used to improve / finalise a shape and to transfer it to the chosen manufacturing material.
Tensile strength	The ability to resist a pulling force, e.g. a tow rope or lift cable.
Testing	The process of trying out a product to see if it does its job or to see if it is strong enough or durable enough.
Toughness	Similar to durability. The ability to withstand repeated force, impact and rough use.