



Le Gateau's
A-Z of
Design
Technology





Le Cateau's A-Z of Design Technology



A

Abrasive - a material which can wear others away

Aesthetics - the artistic, tastefulness and beauty of the product

Airborne - floating around in the air

Allowance - extra fabric to allow for seams

Alloys - a mixture of two or more metals

Analysis - finding out

Anthropometric data - data about the sizes of measurement of people, what they can reach and hold etc.

Artefact - a manufactured object

Automata - model of figures which move when handles are turned

Axis - the centre of rotation



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B

Bacteria – micro-organisms, some can cause food poisoning

Balanced diet – a diet giving all or most of the nutrients needed

Batch production – making a small number of a product

Batik – using wax as a resist

Bellcrank – a lever with an angle at the fulcrum

Bespoke – a product that has been made to order

Bevel – a sloping surface or edge

Bluetooth – concerning the use of short range wireless communications for mobile phones, computers etc

Bond – joining together using glue

Brainstorming – a technique used for writing down linked ideas quickly
Breadboard – a board for building circuits on

Brief – a short statement about what you intend to do

Built in obsolescence – where products are designed to stop working or become redundant after a set period

Bulking – providing mass or volume

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C

CAD – computer aided design

CAM – computer-aided manufacture

Cam – a shaped disc or eccentric wheel

Cantilever – a beam supported only at one end

Capacitor – a device which stores charge

Carbohydrates – sugars and starches

Carbon fibre – a resin with carbon threads in it

Characteristics – the qualities of a material or ingredient

Chill – to cool below 8 degrees C

Circuit symbol – the drawing which represents the component in a circuit diagram

Components – parts of a project

Concept map – a map of understanding and learning

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D

Database – a program which links together information which can then be searched

Design brief – a short statement about what is needed, who it is for, and any constraints

Design processes – stages in putting your thoughts in to a structure

Designer – the person who devises what the product will be like

Designing – thinking of and developing ideas

Dimensions – add measurements to drawings

Diode – a device which passes current in one direction

Disassembly – taking things to pieces

Dovetail – a type of woodworking joint

Drive belts – soft rubber or plastic materials used with pulleys

Durability – The ability of a material to withstand wear, pressure or damage

Dye – a chemical colour

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E

Eccentric cam – a circular cam with offset axis

Effort – the force put into a system

Electrical insulators – a group of materials that will not allow a current to pass through them

Elevation – a view

Environmental impact – how much effect something has on the world

Evaluate – to compare with the specification

Exploded diagrams – showing how all the parts fit together

Extruded – squeezed through; the process is used extensively for plastics and metals as it forms uniform cross-sections

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F

Fabrication – making up something from materials

Fat – found in meat, milk, cheese and butter

Feedback – taking some of the output back to the input

Fibres – threads from which fabrics are made

Fixing – helps to prevent dyes washing out of fabrics

Flavour – the taste of a product

Flow diagrams – shows the organisation of projects

Flux – a paste which stops oxygen from affecting metals when heated

Follower – a slider which rubs on the outside edge of a cam

Form – why a product is shaped or styled as it is

Former – a base on which to build up thin layers of a material

Function – what the purpose of a product

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G

Garnish – to decorate food using colours, textures etc

Gear ratio – a comparison of the number of teeth on the output and input gears

Glaze – a coating of egg, sugar solution or stock to provide a shine on food

Green timber – newly felled timber containing a lot of moisture

GRP – glass reinforced plastics sometimes called fibre glass

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H

Hardwood – wood from a tree that loses its leaves in winter

Hardening – The heat treatment process of making a metal harder by applying heat and cooling rapidly

Hardness – The ability to withstand abrasive wear and indentation

Hazard – a danger

Heat bending – using heat to bend thermoplastics

hem – used to stop fabric from fraying on cut edges

Hydraulics – using compressed fluid, usually a special oil to move things



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Idler gear – a small gear fitted in between two gears so that they turn in the same direction

Implication – what is going to happen as a result of a decision taken

Ingredients – the individual parts of a recipe of food

Inputs – sensors, ie, switches which produce an electrical output

Integrated circuits – small integrated electronic circuits, ICs

Irreversible – once something has been done, it cannot be changed

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J

Jig – a device to hold odd shaped work

K

kilohm – one thousand ohms

knot – a round dark part of timber, where a branch starts in the tree

Kyoto Protocol – an international agreement that set out to reduce greenhouse gas emissions globally

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L

Lag – the time it takes a system to respond to change

Laminating – gluing together thin strips of material to make a thicker one

Laser cutting – using high powered lasers to cut materials

LED – light emitting diode

Lever – a rod pivoted along its length

Linear – a straight line

Load – the forces acting on a structure

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M

malleable – of a material, capable of being deformed by compression without tearing or cracking

mass production – making very large quantities of products

MDF – medium density fibre board, a man made board

Mechanisms – a system of gears, cams and pulleys working together

mesh – to link or fit together




Minerals – found in vegetables and fruit, keeps you healthy

Mock up – a model

Modelling – making small scale replicas or using a computer program to test ideas

Mould – molten metal is poured into this to make a shape

Multimedia – sound, pictures, text, video in digital form



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N

Natural – from sources in nature, plants and animals

Non-ferrous – containing no iron

Nutrient – ingredients which are beneficial to life



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O

on/off switch – switch with only two states called on or off,

sometimes shown as 1 or 0

one-off production – making a product as a single item, such as a bridge or a football stadium

opaque – Not able to be seen through

operator – the method in which the valve is operated, eg push button, lever etc

organic material – derived from living matter

orthographic drawing – a style of drawing with measurements and construction details

outcome – the result of a design activity

outputs – devices which light up, sound or move when a voltage is applied

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P

Packaging – the containers in which products are sold

PCB – a printed circuit board

Permanent stitch – the final strong stitching

Pickling – preserving with vinegar

Pictorial drawings – a realistic, rendered drawing of the project

Pilot hole – a small hole used to stop materials splitting when using nails or screws

Pinion – a smaller gear

Pivot point – a point of rotation




Pneumatics – using compressed air to move things

Polymer – a molecule formed when monomers are joined together


Polystyrene foam – a thermoplastic material used for modelling

Port – where air enters and leaves a pneumatic component

Precious metals – rare metals such as gold, silver and platinum



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Q

quality assurance – making sure products are up to standard

questionnaire – a list of questions with spaces for written answers



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R

Recover – get energy from waste materials

Recycling – reusing waste or unwanted materials

Reduce – Lower the amount of energy or material used in the manufacture of products

Reforming – a process that involves a change in state of the material being processed eg Casting

Relay – a solenoid operated switch

Research – finding out information

Resistant materials – wood, metal and plastics

Reuse – Use a product or material more than once

Router – a hand held tool capable of holding different sized and shaped bits to cut different slots or profiles

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S

Scale – the size of the model compared to the real thing

Seam – used to join fabrics together

Seasoning – reducing the moisture content of timber

Sensors – devices that can sense temperature, heat, light and moisture

Simulate – use the computer to try out something before actually making it

Sketching – drawing freehand




Snail cam – a snail shaped cam

Softwood – wood from a tree which keeps its leaves in winter

Solvents – chemical which dissolves others

Sources – where you find information

Specification – what the product has to do and look like, a list of design requirements



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T

Tack – to join together with a removable stitch

Tarnish – a film or stain that forms on an exposed surface, often leading to a change in colour or loss of lustre

Tasting – eating or drinking to find out the texture or taste of food or drink

Tease apart – to gently pull apart

Template – a pattern, used to draw around

Tensile strength – the load which a material can withstand

Tension force – a pulling force

Testing – trying out things

Timber – wood prepared for use in construction

Timer – a circuit which stays on or off for a time for receiving an input signal

Torque – the force of twisting



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U and V

Valve – controls the distribution of air in a system

Vegan – someone who does not eat any animal products

Vegetarian – someone who does not eat meat

Velocity ratio – a comparison of the distances moved by the effort and the load

Veneer – a very thin sheet of wood shaved from large pieces of wood

Versatile – capable of being used for or adapted to many different applications

Virtual modelling – creating models on a computer

Vitamins – found in vegetables and fruit, keep you healthy

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W

warp – twist or distort

wastage – shaping by removing

work hardening – when hammered or bent, metals get harder to work

working voltage – the maximum voltage that can be applied to a capacitor

woven – threads joined together to make fabrics