

Subject specific vocabulary

These are definitions of key terms used in our GCSE Design and Technology specification (8552). Students should be familiar with and gain understanding of these terms.

Automation

The use of control systems for operating equipment such as machinery and processes in factories; this reduces human input.

Client

The person/people/audience being designed for and whose needs are being met.

Commercial process

Manufacturing method used to produce products in quantity.

Commercial product

A product intended to make money.

Conceptual stages (of design)

Use of models, sketches and computer aided design (CAD) to show the design of a product as it develops.

Continuous improvement

The identification of improvements and subsequent evolution of products.

Co-operative

A group of people united to meet common social, economic or cultural need through a jointly-owned business.

Crowd funding

A large number of people who raise money for a project or venture.

Ecological

The consideration of the environment and the impact that design can have on it.

Ethics

Moral decisions when designing and manufacturing.

Fabricate

Using processes such as cutting, bending, joining and assembly to produce products.

Finite

A material or source which will one day run out.

Functionality

How well a product carries out its purpose.

Fusibility

How well a material is converted by heat into a molten or liquid state dependent on its melting point.

Iterative design

Design methodology based on a cyclical process of analysing, prototyping and testing to refine a product. Each iteration and result starts the process again.

Lean manufacturing

Reducing and eliminating waste in a manufacturing process.

Life cycle assessment

A technique used to assess the environmental impact of a product at all stages of its manufacture, use and disposal.

Market pull

Products developed to meet the needs of society or a specific section of the market.

Mechanical device

Mechanism which produces and/or changes movement.

Nesting

The tessellation of shapes or nets on a material to minimise the amount of waste during manufacture.

Physical properties

Properties that refer to the actual matter that forms the material (eg insulation, conductivity, fusibility).

Planned obsolescence

Deliberately designing the lifecycle of a product to be short, forcing the user to update their products quickly.

Primary source

Research collected first-hand by a designer to develop a product or idea.

Primary source (of materials)

Where materials originate (polymers from oil etc) and the raw material that needs to be converted into a workable form.

Product

Item or artefact developed for an intended audience to solve a problem or meet a need.

Prototype

An early model or sample of a product used to test a concept.

Schematic diagram

Graphic symbols or simplistic diagrams used to convey a system (eg an underground map).

Social footprint

The impact a product or individual has on society.

Social responsibility

The idea that a designer needs to evaluate the impact their product could have on society and take action to make this better.

Stock form

The standard shape and size of materials as they are bought.

Technology push

Technological discoveries used to drive the development of a product.

Tolerance

The minimum and maximum measurements that can be accepted when manufacturing.

User

The person/people who make use of the product that has been developed by a designer.

User centered design

Design development with the user at the centre of the focus. The designer tries to envisage how the product will actually be used, as opposed to focusing on other areas such as cost.

Working properties

How a material reacts to external forces.