Design in theory

International Baccalaureate · IB Diploma · Design Technology · HL · Vocabulary in context

Word	Example
iterative /ˈɪtərətɪv/	Design is **iterative**: test, improve and test again.
design cycle /dɪˈzaɪn ˈsaɪkl/	The **design cycle** is plan, make, test, improve.
double diamond	The **double diamond** model opens up many ideas and then narrows to the best.
divergent thinking /daɪˈvɜːdʒənt ˈθɪŋkɪŋ/	**Divergent thinking** finds many uses for a brick.
convergent thinking /kənˈvɜːdʒənt ˈθɪŋkɪŋ/	**Convergent thinking** narrows many ideas down to one.
design thinking	**Design thinking** starts by understanding what users need.
design brief /dɪˈzaɪn briːf/	A **design brief** states the problem, the client and the setting.
design specification	A **design specification** lists what the product must do.
factor of safety	A **factor of safety** of 1.52 covers load, strength and model errors.
user-centred design	**User-centred design** involves users at every stage.
inclusive design	**Inclusive design** makes products that more people can use, like easy-grip handles.

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ergonomics /ˌɜːgəˈnɒmɪks/	Test the handle's **ergonomics**: is it comfortable to hold?
anthropometrics	**Anthropometrics** is the measurement of the human body.
anthropometric data	**Anthropometric data** give body sizes, like hand length, for a group of people.
static data	Height and hand length are **static data**.
dynamic data	Arm reach while moving is **dynamic data**.
normal distribution /ˈnɔːml ˌdɪstrɪˈbjuːʃn/	A **normal distribution** has a symmetric bell-shaped density curve.
percentile /pəˈsentaɪl/	Scoring at the 90th **percentile** means you beat 90% of people.
clearance /ˈklɪərəns/	Leave enough **clearance** so the drawer slides freely.
reach /riːtʃ/	A shelf must be within the user's **reach**.
cognitive ergonomics	**Cognitive ergonomics** asks whether a product is easy to understand.
affordance	A flat plate on a door has the **affordance** of pushing.
signifier	A **signifier**, like an arrow, shows how to use a product.
mapping	Good **mapping** puts each cooker knob in the same layout as its ring.

Word	Example
feedback /ˈfiːdbæk/	**Feedback** lets the system check the result and adjust.
constraint /kənˈstreɪnt/	A **constraint** is a rule, such as NOT NULL. NOT NULL
mental model	A **mental model** is how a user thinks something works.
information overload /ˌɪnfəˈmeɪʃn ˌəʊvəˈləʊd/	Too many buttons cause **information overload**.

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