

MYP2 Knowledge Organiser: Engineering: Smart Water Bottle Design

Key Vocabulary

Ergonomics – the process of designing products, whilst keeping in mind the needs and wants of the people who use them. Ergonomics is a consideration that leads to a product being designed in a way to make it easy to use. Size, weight, shape, position of buttons and controls are all aspects that contribute to it being ergonomically designed.

Anthropometrics - the practice of taking measurements of the human body and provides categorised data that can be used by designers. Anthropometrics help designers collect useful data, eg head circumferences when designing a safety helmet.

User Centred Design - design processes in which designers focus on the users and their needs in each phase of the design process.

Ideation - the process where you generate ideas and solutions through sessions such as Sketching, Prototyping, Brainstorming etc.

Prototype - A prototype is an early model of an object that you build to test a design. Prototypes are drafts of your final version, focusing on functionality.

Question	Answer
Connected devices commodify your data. What does this statement mean?	To <u>treat</u> or <u>consider</u> something as a <u>commodity</u> (= a <u>product</u> that can be <u>bought</u> and <u>sold</u>). This means your data/information can be used by other companies and connected products
How can I design with other people in mind?	<ul style="list-style-type: none"> • Anthropometrics – Shape, Weight etc. • Technology • Branding • Ergonomics • Colours
It is difficult to make an in-depth piece of product analysis without a framework . What do we mean by ‘framework’?	To make this easier designers use a framework called ACCESS FM that makes sure they think about the most important points .
What does ACCESS FM stand for?	A esthetics C ost C ustomer & Client E nvironment S ize S afety F unction M aterial & Manufacture
Why would a designer ‘render’?	To add: Depth, Material, Texture and Tone
What is orthographic projection ?	is a way of representing three-dimensional objects in two dimensions .



RECAP



Substitute - Swap one part for another

Combine - Combine the product with something else

Adapt - Imagine the product being in a different place.
How might it react?

Modify - Scale (bigger or smaller)

Put to Another Use - Think of a different function to
what the product currently does

Eliminate/Erase - Take a part away

Reverse - View upside down or inside out

Sketch

Outline

Annotate

Render



'CAMEOS' or zoomed in sections of your drawing make it even easier to understand and therefore get you even more marks!