Year 8 Papers & Boards- Activity Book Knowledge Organiser

Product Analysis

A great way to help you get started in a design project is to research other designers' work. Studying the work of designers can help inform and inspire our own ideas. The first thing designers do when given a new design task, is identify products that are similar. They examine them carefully, noting how they function, how they look, the materials that have been used and how much they cost. A good 'template' for product analysis is the acronym : ACCESS FM'

Study
To investigate, research and show an in-depth understanding of what you have found.

Consider
Review and respond to given information.

The 6 R's	
Recycle	Take an existing product that has become waste and re-process the material for use in a new product.
Reuse	Take an existing product that's become waste and use the material or parts for another purpose, without processing it.
Reduce	Minimise the amount of material and energy used during the whole of a products life cycle.
Refuse	Don't accept a product at all if you don't need it or if its environmentally or socially unsustainable
Rethink	Our current lifestyles and the way we design and make
Repair	When a product breaks down or doesn't function properly, fix it

Icon	2D design tools *Meaning*
	Used to draw straight lines
	Used to draw freeform curves
	Used to draw circles
ABC	Used to add text
	Used to 'bound fill' an area
	Used to draw rectangles

The Design Process	
Design Brief	A statement outlining what is to be designed and made
Specification	A list of design criteria
Research	Sourcing information and inspiration to help with design work
Design Ideas	A range of potential solutions to the problem
Development	Further improving an idea
Final Idea	A presentation drawing of chosen idea
Manufacture	Making the final outcome
Evaluation	Reviewing strengths and weaknesses of a final product and design work

Computer Aided Design (CAD)
CAD software is used by designers to create drawings or technical illustrations

Computer Aided Manufacture (CAM)
CAM is the outcome of the computer aided design process.

Knowledge

To know:
- how to use research to design effective logos
- how to analyse and develop ideas from existing designs
- how to evaluate and annotate
- how to use CAD effectively, focusing on 2D design for the maze and Publisher for the activity booklet
- how to use a variety of approaches, to generate creative ideas and avoid stereotypical responses
- and have an understanding of new and emerging technologies
- how automation works and how it is affecting the workplace.
- and understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists Know how to analyse and develop ideas from existing designs

Skills

- use CAD effectively, focusing on 2D design effectively to create a maze and colouring book.
- investigate new and emerging technologies
- use the die cutter.
- select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture

Thermoplastics
Thermoplastics can be reheated and reshaped. They become mouldable after reheating. Reheating and shaping can be repeated. plastics can be recycled. The bond between the molecules is weak and becomes weaker when reheated, allowing reshaping. These types of

Common Thermoplastics: Acrylic, PVC, HIPS, PET

Die Cutting
Die Cutting is the process that is used to cut and crease printed material. It is done by inserting sharp blades (press knives) into a sheet of thick plywood (press forme). This is then placed on top of the printed material and pressed down to stamp it out. Creasing is done by using rounded blades instead of sharp ones.