

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'



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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

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

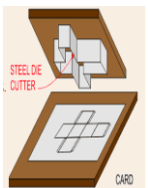
Thermoplastics can be reheated and reshaped. They become mouldable after reheating. Reheating and shaping can be repeated. plastics can be recycled. The bond between the molecules is weak and becomes weaker when reheated, allowing reshaping. These types of



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.



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