



DESIGN AND TECHNOLOGY GCSE



**Why choose Design
and Technology?**

What do you learn?

Core technical principles

- Learn how to make effective design choices
- Discover new and emerging technologies
- Understand materials and their working properties
- Systems approach to design

Specialist technical knowledge

- You will develop a deeper understanding of at least one material area and additional knowledge in a second material
- Timber and polymers
- An element of Maths (15%) and Science (10%)

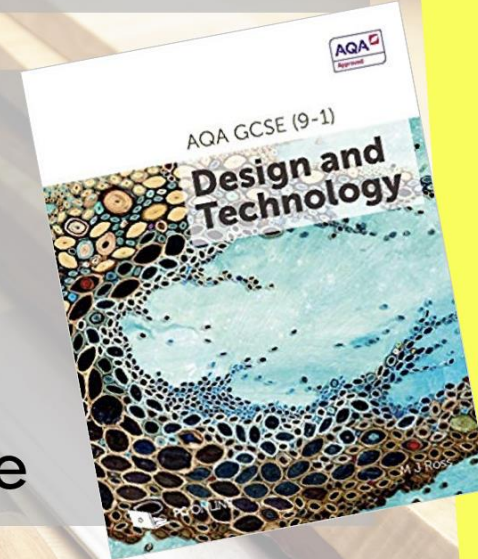
Designing & making principles

- Develop your understanding about the stages of designing
- Problem solving skills
- New technical drawing skills and CAD

How is Design and Technology assessed?

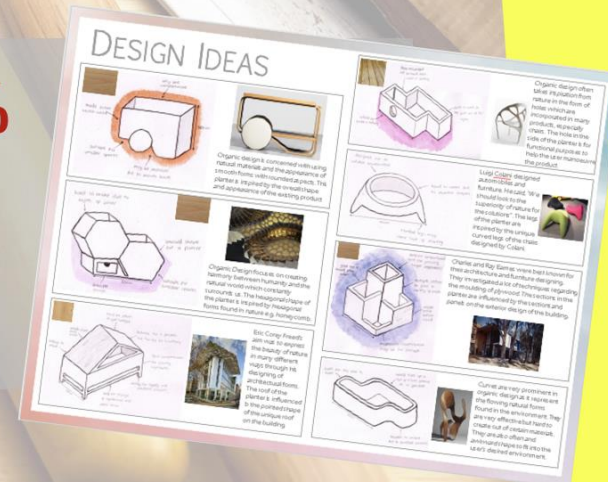
THEORY

- **Written Paper** **50%**
- 2 hours
- 100 marks
- Assess your theoretical knowledge



NEA

- **Coursework** **50%**
- Non-examined assessment
- A design and making task



Non-examined assessment

Produce a portfolio of work, a final model and several prototypes to support your design

Starts in June of Y10 after AQA release context questions runs until March

Early April marks are submitted to exam board

DESIGN IDEAS: Streamlined design - Movement

This is a good example of the prominent teardrop shape which I have incorporated in several of my designs.

I used the soft streamlined design from this motorbike in my designs for a simplistic, calm look.

I used the interesting shape of the chairs back and used it in my design to make a creative shade. The bulb will need to be hidden for safety.

Inspired by the teardrop shape being used as the main body in the sharpener, I used the light that clamps onto the frame. This design reflects the price produced from client.

Incorporating a shutter into this light may be difficult. Also another feature could be added like a box for storage.

SUMMARY: The teardrop shape is a big part of streamline design and if I were to choose to incorporate this to fully represent this movement...

DESIGN IDEAS

Organic design often takes its inspiration from nature in the form of holes which are incorporated in many products, especially chairs. The hole in the side of the planter is for functional purposes to help the user manoeuvre the product.

Luigi Colani designed automobiles and furniture. He said, "We should look to the superiority of nature for the solutions". The legs of the planter are inspired by the unique curved legs of the chairs designed by Colani.

Charles and Ray Eames were best known for their architecture and furniture designing. They investigated a lot of techniques regarding the moulding of plywood. The sections and panels are influenced by the sections and panels on the exterior design of the building.

Curves are very prominent in organic design as it represents the flowing natural forms found in the environment. They are very effective but hard to create out of certain materials. They are also often and awkwardly shaped to fit into the user's desired environment.

Organic design is concerned with using natural materials and the appearance of smooth forms with rounded aspects. The smooth forms with rounded aspects of the planter is inspired by the overall shape and appearance of the existing product.

Eric Corey Freed's aim was to express the beauty of nature in many different ways through his designing of architectural forms. The roof of the planter is influenced by the honeycomb structure of nature.

Non-examined assessment

DEVELOPMENT

Previous images of the design

- The design makes good use of a small space as it's quite deep and there's no waste space being used by decoration.
- It's a very square design so it doesn't have much decoration or character. The way that a user of buying it if they are looking for something that is more aesthetically pleasing. However, some users may want an item that is more minimalist so it's a different environment and is multipurpose.
- Through making the compartments deeper, it would allow plants to grow that have longer roots and require more space. It would depend on the main function of the product and what the user aims to use it for.
- The design is quite versatile because it could be a range of sizes. For example, it could be as small as a window sill planter or as large as a planter for large vegetables such as pumpkins or leeks. Therefore, if a user was looking to purchase it, they could select a certain size from a range of sizes, depending on their specific needs and requirements.
- It is vital that all the right angle corners of the boxes are accurate to ensure all four boxes fit together perfectly with no uneven corners or excessive gaps. It is vital that the product would be made accurately to make sure the vacuum purchase it, they could select a certain size from a range of sizes, depending on their specific needs and requirements.
- If this design was further developed, you could have more functions or attract a more appealing aesthetic as it would look more appealing.
- The use of a google sketch allowed me to make it unique and more appealing to it.

SIDE ELEVATION WITH MEASUREMENTS

DEVELOPMENT OF SHAPES/ POTENTIAL DESIGN IDEAS

DESIGN IDEAS

Organic designs integrate the structures of tree branches and the veins of leaves to represent natural forms. This planter manipulates these structures to add further design without changing the functionality of the product.

The 90° corner of the roof of the house inspired by organic architecture influenced the simple shape of the planter. The shape allows it to fit into a corner of a balcony or garden so it is not obstructing the user's space.

Charles and Ray Eames used the influence of organic design when creating the shelving units to adapt it for many of the user's needs. I have used the concept to surround the planter with storage units.

Colani used curved shapes in his design to replicate natural forms and to develop his design further. The shape of the mug near the handle is used to develop the shape of the planter.

Organic design often focuses on gaps/holes within shapes in nature, clearly linking to the woven design of this planter. It is often used to replicate the unique shapes.

The durable frame used in "Maison Demonstration" and its impression of sturdiness and resistance. Also the houses wooden walls were used in this lights shade.

The shapes of leaves are recurrent in organic design to replicate natural beauty. The planter incorporates the leaf design inspired by the chair with cut out leaf details running through it.

CAD - SKETCHUP

The design is made of 4 boxes that are all the same size on top with different depth design. The differing depths allow an interesting user to use the compartments for different things such as growing a variety of vegetable, or storage of equipment.

The boxes would probably be made using dovetail, finger or mitre joints. They are all separate and they will be glued together and fixed to the same base for stability.

The CAD model of the design was simple to use and it allowed me to see the design from different angles to help me understand how I could make it.

One of the boxes could have a glass or perspex lid to allow the product to have protecting plants from poor weather conditions.

The design could be made in two different ways?

- 2 rectangles, joined together so there is a cavity in the middle of the planter to create 2 separate compartments.
- Wood joined together at right angles on a shaped base to create only 1 compartment.

The planter could also be made using dovetail, mitre or finger joints as the whole design is made with 90° angles.

Either design could have dividers to create smaller compartments so the product has appealing to the user.

From modelling the design and creating it using CAD, it has become evident that it is easily added for decoration or for a specific purpose.

If I made the design, I could use a vacuum forming machine to create two rectangular forms for the planter to contain the soil a different way.

The joints would be quite difficult as the you can't easily make mitre, finger or dovetail joints.

The issue with joints and materials that I would come across.

DESIGN IDEAS: Jean Prouvé - Designer

This stool inspired this similar light with its triangular looking legs. I also kept the flat top to help project the light.

I like the chairs fat cushion contrast with the sleek metal base and tried to convey a similar feel in my design.

This design is different to the rest as it has a slimmer feel. It could be a good desk light if I could make the head moveable.

I used this building's cross section and represented it in my design while also adding Prouvé's signature shape.

I wanted to use the "Büret" tables' most interesting component in a design to make an attractive task light.

SUMMARY: I like the outcome of these Jean Prouvé inspired designs and the interesting shapes and styles that have been drawn. There are several designs here that I think would be appropriate for an ambient or task light indicated in the design brief.

This Oscar Niemeyer lamp would need to be developed further with another function to make it appropriate for a table light.

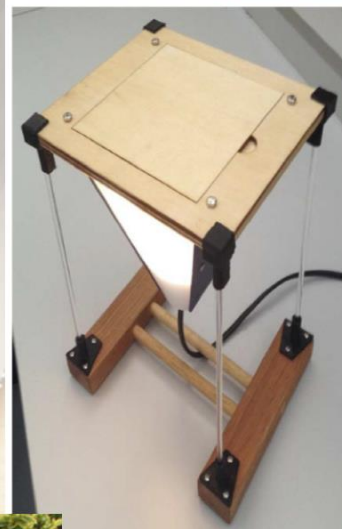
The curves Niemeyer used so much are conveyed both in this drawing and within my lamp design.

The curved walls of this building opposing the straight wall inspired this lamp. However it may take up too much space.

This lamp is has several functions which would make it good for a student. It would need different materials considering the amount of parts.

I used the domes and straight walls of the National Congress of Brazil to be represented in this

Final Products



Where can GCSE Design & Technology take me?



- Architecture
- Construction and Carpentry
- Product Design
- Engineering
- Game Design
- Fashion Design
- Film, TV and Stage production
- Web/App Designer
- Project Manager
- Entrepreneur/Inventor
- Graphic Designer
- And many more...

