



# Component 1: Three-dimensional Design

## Standard Mark – 50

	AO1	AO2	AO3	AO4	TOTAL
Mark	12	13	12	13	50
Level	4	5	4	5	
	Fully competent and consistent ability	Just confident and assured ability	Fully competent and consistent ability	Just confident and assured ability	

Keyword descriptors from the taxonomy:

Comprehensive



# Examiner comments

This Three-dimensional Design Component 1 submission consists of an A3 poly-folder and various 3D outcomes. Images of the work selected here reflect the characteristics of work falling between Performance Level 4, Competent and Consistent, and Performance Level 5, Confident and Assured.

Underpinning both the Architecture and Light Design projects is the candidate's engagement in their critical understanding of relevant sources. For example, the candidate visits Dame Zaha Hadid's London Aquatic Centre, Queen Elizabeth's Olympic Park and analyses the structure and form of the building to inform their own skilful digital designs.

The candidate identifies strengths and weaknesses of potential architectural designs and further purposeful refinements are made into window shapes, annotated with personal reflections. Convincing refinement of ideas through exploring with appropriate material and processes, including digital designs, orthographic projections and model making are evident across the submission.

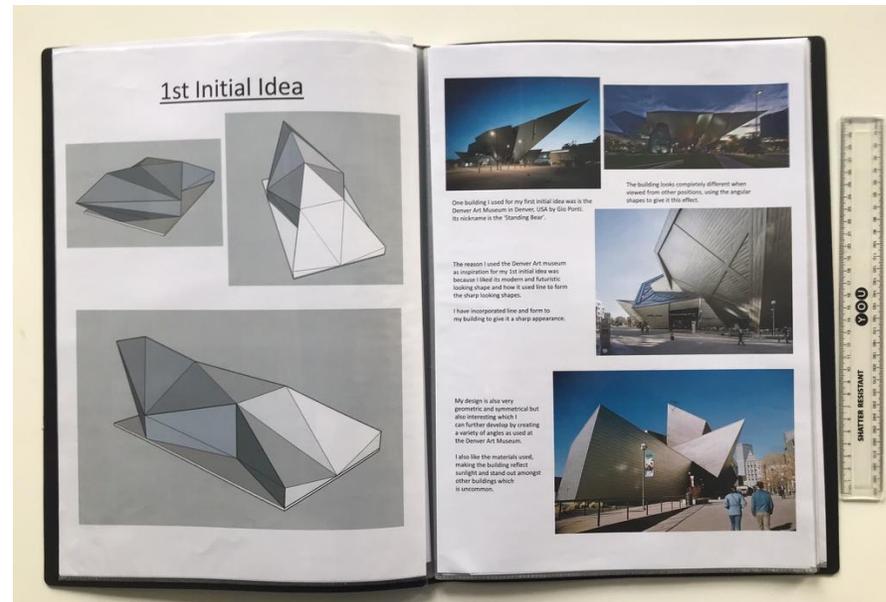
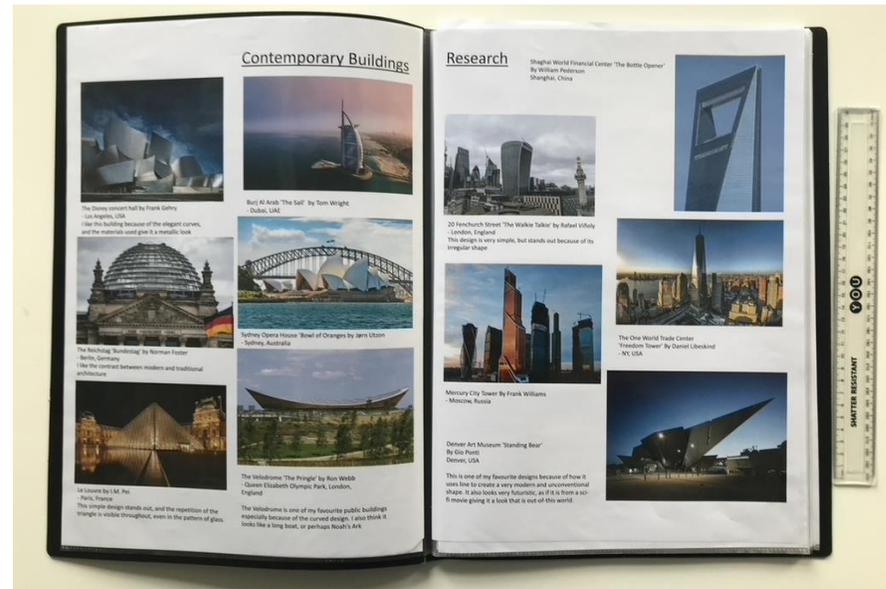
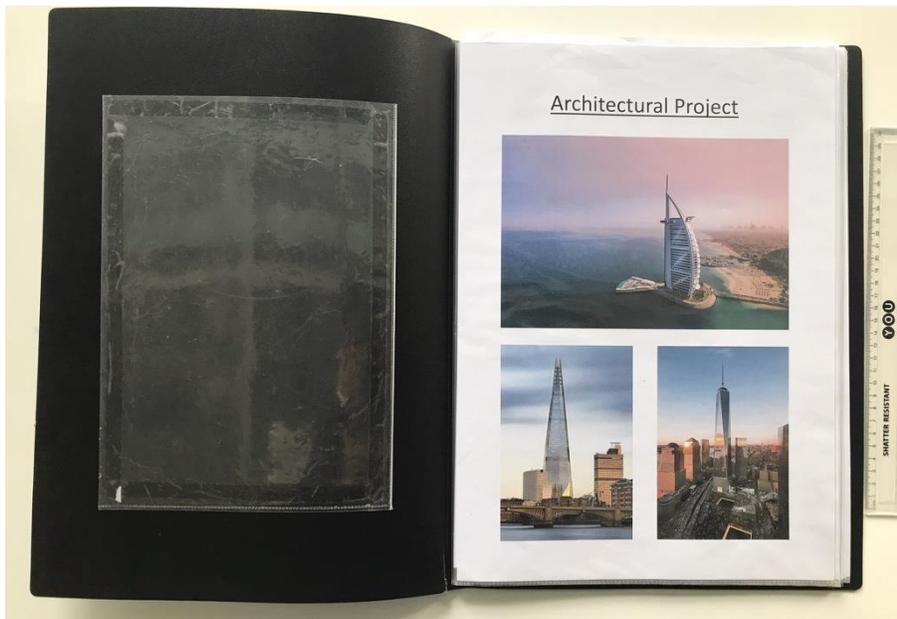
Within the Light Design project, the candidate purposefully explores the use of clear and white acrylic "to create contrast which I believe creates a dynamic design, especially with the white components visible through the transparent ones". Ideas are recorded chronologically, and supported by informed and secure digital designs and drawings.

The final convincing light outcome, is made in white acrylic, laser cut interlocking shapes, approx. 25cm in height, with a light-fitting. You can see the influence of the early investigations into forms taken from a sea horse. Also of note, is how the first project on architecture creates a sustained line of enquiry into the lamp design project, resulting in a comprehensive body of work.

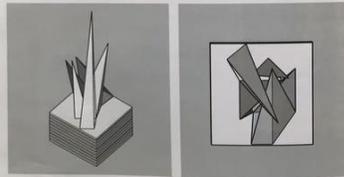
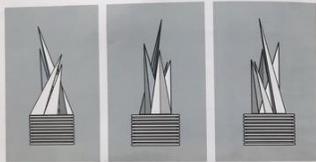
The strengths within the submission are within A02, refining and A04, presenting a meaningful outcome, resulting in a holistic mark of 50/72: Performance Levels 4 and 5 Competent and Consistent/Confident and Assured. For the submission to move more securely within Performance Level 5 the candidate could demonstrate greater evidence of risk-taking within the recording of observations and insights.



Pearson



## 2nd Initial Idea



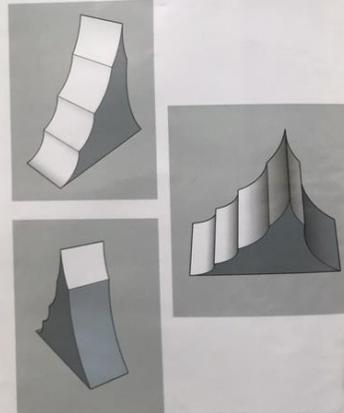
A design I used for my inspiration was the Reichstag in Berlin, Germany nicknamed the 'Bundestag' designed by Norman Foster. It served as the German Parliament until 1993 when it was burnt down. The key element I like about this structure is the contrast between modern and old architecture.



I used the Reichstag in Germany for inspiration because I was drawn to the modern dome which contrasts with the older building on which it sits. I used this inspiration in my idea to create a complete and intricate design, placed on top of a simple structure. I like how much this initial idea stands out and is unlike any other building.

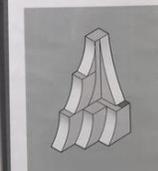
I like how the dome seems to stem out from a central point, and the use of glass gives it a more natural look. The walkway is also cleverly designed, curving around the interior edge of the dome to enhance the design.

## 3rd Initial Idea



One building I used as inspiration for my 3rd initial idea was the Mercury Tower designed by Frank Williams in Moscow Russia. It serves as space for the apartments, offices etc. The thing I like about this skyscraper is the way it looks like it has several layers stacked on top of each other.

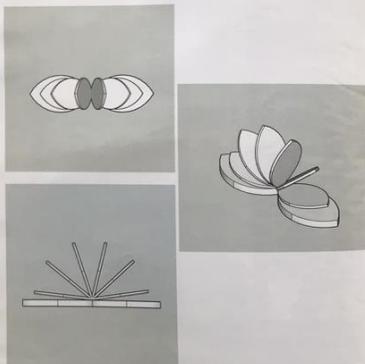
The way I have integrated these buildings into my initial idea is by using the curved edges on the top of the Philharmonie building and used them on both sides of my structure which I think gives it a unique and interesting look. I've integrated some of the ideas of the Mercury tower by creating a look of layers on top of each other, including as the building rises, with a flatter side on the back of the building.



I did this similarly in my variation to the idea, with the curved parts and the rising gradient, but flat on the other side, and I could look to repeat this to make the building appear complete.

Another building I used as inspiration was the Philharmonie Building that was designed by Hans Hollein in Berlin, Germany. This structure serves as a museum. I like the curves at the top, each at different heights making it look unique.

## 4th Initial idea



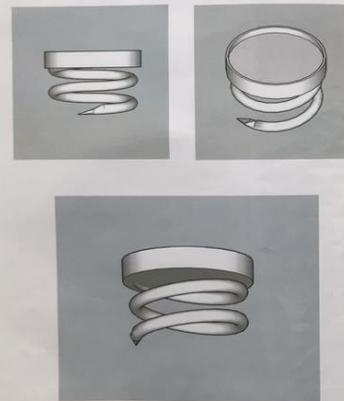
One building I used as inspiration for my 4th initial idea was the Louvre in Paris, France designed by I.M. Pei. This structure serves as a museum. The key element I like about this building is its modern simplicity. I also like how it is completely made from glass, so the light illuminates it at night.



I used the Sydney Opera House as inspiration because of its unique form and shape, using different sized pieces organized together that resemble a series of sails, giving the impression of a boat on water.

The way I have used these buildings as inspiration is a similar structure to the Sydney Opera House, with the components pointing at different angles in a 30-degree area, and using a triangular formation, as well as creating sharp points on the building to help it stand out more.

## 5th Initial Idea



I used the Ribbon Chapel by Hiroshi Nakamura as inspiration because of the way the path seems to carry on spiraling around the main structure and acts as a rampway. The curves give it a natural look however, the contrasting color helps it to stand out from its natural surroundings. I also like how the stairway seems to overlap each other, which creates the ribbon effect given to the name.

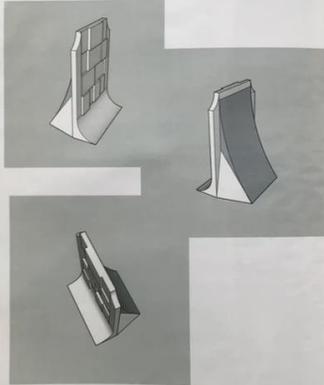


The way I have incorporated both buildings into my own idea is by creating a spiraling form, into a main structure which I think is both unique yet simple. I think by adding a second spiraling structure it would look more complex, as well as giving the building more structure.

I really like the Museum for Swiss Watchmaking by Barker Wright, because of how the structure seems to rise from the ground in a spiraling effect. Two spirals seem to have been used which I think creates more variety. I also like how the building is the same color as the surrounding ground and environment, further giving the impression of it coming from the ground, and creating a natural feel too, as if it belongs in nature.



## 6<sup>th</sup> Initial Idea



One building used as inspiration for my 6<sup>th</sup> initial idea was the Lufthansa International building designed by Jürgen J. Poppo in Guangzhou, China. The thing I like most about this building is how the designer included a natural aspect in the structure as a waterfall which has given it a unique look and is a different to other buildings. I also really like the difference between the flat and the curved sides.

The way I have used the Lufthansa International building as inspiration was by applying a similar form, with a flat front on one side and curved on the opposite side. I did this to create a variation in shape and form of the building to make the structure more interesting.



I also took inspiration from the Gallery of Light Tower which has interesting windows, creating a feature to the building. The different shapes also create variation, and I have done this in my design with the square protruding at different distances. I can also later incorporate windows in a similar design.



## Building Visit



The building visited for inspiration for my design was the London Aquatics Centre in the Queen Elizabeth Olympic Park. This building was designed by Dame Zaha Hadid and was commissioned specifically for the 2012 London Olympic Games swimming pools and events, and is a rare leisure center open to the public. The thing I like most about this building is its curved design and structure of the building that continues around the design and how the shape appears very different from anywhere you look.



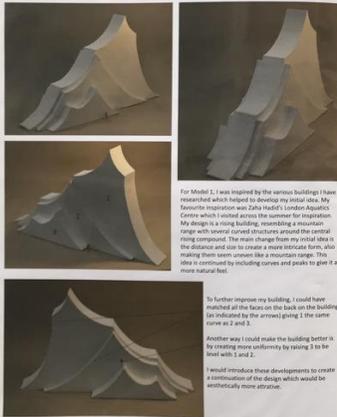
The irregular shape of this building makes the building stand out from the surrounding and is very eye catching in contrast to some of the much taller skyscrapers and office blocks that are nearby.

The building is dominated by the curved design with protruding windows that look as if they are attached to the building, giving it a very modern and simple look but also pleasant to look at with its unique shape.

The materials used on this building create an intricate look that creates combinations of different colors and textures. The materials also add to the curved design giving it an even more unique look.



Model 1



For Model 1, I was inspired by the various buildings I have researched which helped to develop my initial idea. My research inspiration was Zaha Hadid's London Aquatics Centre which I visited across the summer for inspiration. My design is a rising building, resembling a mountain range with several curved structures around the central rising compound. The main change from my initial idea is the distance and size to create a more intricate form, also making them seem unseen like a mountain range. This idea is continued by including curves and peaks to give it a more natural feel.

To further improve my building, I could have matched all the faces on the back on the building (as indicated by the arrows) giving it the same curve as 2 and 3.

Another way I could make the building better is by creating more uniformity by using 3 to be flat with 1 and 2.

I would introduce these developments to create a continuation of the design which would be aesthetically more attractive.

## Extending Ideas

## Through Models

Model 2



As the project has developed, my design for Model 2 has evolved from a single tower into a double tower incorporating regular space in the center. The inspiration for this came from Norman Foster's '1010' building in Hong Kong. This is a 40-story skyscraper and was revolutionary because it moved the building structure from the center to the outside. By having the service facilities such as the lifts and stairs on the outside, it allowed the interior to be a better working environment with open air access. This is also the design of the Pompidou Centre in Paris by Richard Rogers and Renzo Piano.

In a similar way for my building, the large geometric windows will serve to bring light into the interior of the building and create impressive views from the residential and offices in the various towers.

To improve my design, I have been thinking about opening the interior space and glazing between the two towers to bring light into the center and make the middle a part of the building.



## Windows Research



Zaha Hadid - The Hermes Hotel Building in France

Frank Gehry - The Dancing Building in Prague, Czechoslovakia

Zaha Hadid - The Oldrzychowice Museum in Denmark

Renzo Piano - The Pompidou Centre in Paris, France

Adolf Loos - The Villa Muller building in Prague, Czechoslovakia

Zaha Hadid - The Riverside Museum in Scotland

## Analysis and personal Response



This building has a singular piece of glass that runs horizontally from one end of the building to the other. Like this design, I am going to use the concrete facade and when looking from inside, I create an interrupted panoramic view. I have incorporated this feature into my building by creating a vertical plane of glass running down the sides of the structure.



The building features several protruding window frames of different sizes and shapes. They are all geometric in shape with circular lines and when looking at the building, you imagine huge TV screens or giant faces. What I like about this unique design is that it seems to reach out and invite people in.



I have included this in my own design by using protruding windows with heavy frames distributed across the front and rear of the building creating a striking look.

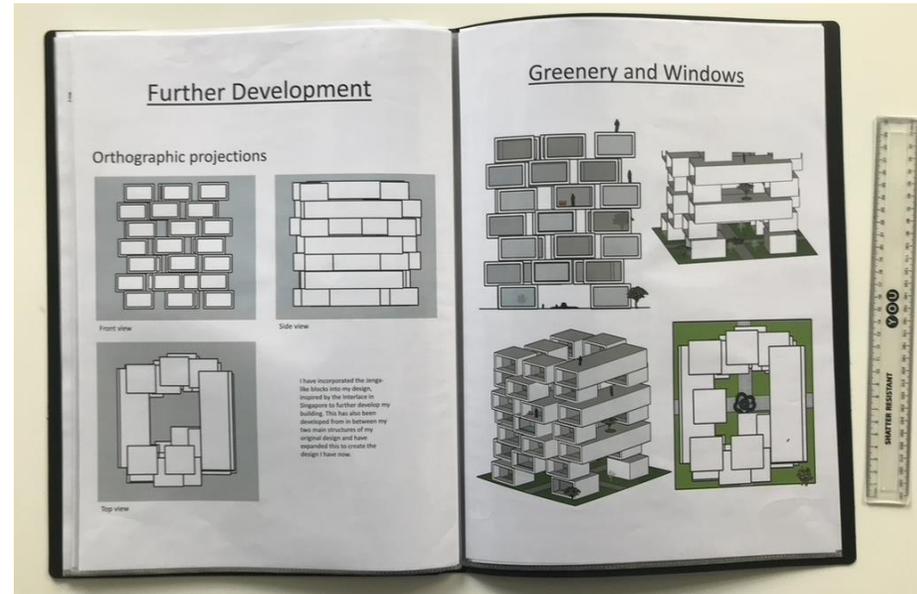


This building is made up of many angular windows of different sizes. They appear to be randomly placed and give the impression of a cliff face with different ledges that would allow someone to climb on the wall. I like this design because it gives it a unique appearance from most other buildings. I also appreciate the windows on the corner of the building which is something not seen very often on buildings.

Frank Gehry - 23 Dwellings in Bethune, France

I have used this in my own design by using windows on the corner of the building, which I think would look appealing from inside.

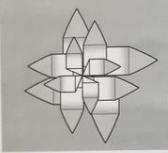






### Initial Idea 4

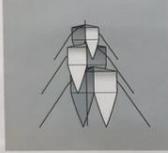
Top View



My idea for this model was to create a design that seemed simple but developed into a more intricate and unique idea.

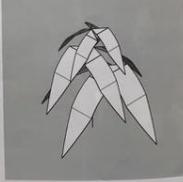
I think I could develop this design by creating different patterns on the various layers of the model and explore rotating them to give it a spiraling effect.

Side View



This idea uses a lot of line and geometric shapes to create the interesting patterns that are apparent when viewed from above.

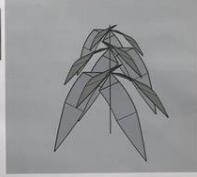
Perspective View



A possible idea could be to attach several bulbs or other sources to the central stem, so the light is directed downwards, allowing the lamp to act as either a hung light or a table lamp.



This idea was inspired by a bamboo tree I found in my garden which I liked a lot because from the bottom, it is a very simple design but then towards the top there is more complexity in how the branches and leaves are arranged.



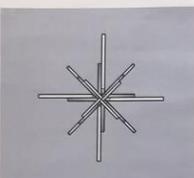
The way that I incorporated parts of the natural object into my design was by designing a lamp with a very simple structure with the main stem in the middle of the model, and then more complex components surrounding this.



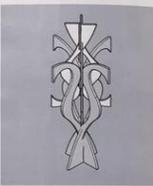
I like the Remoucoule Colonne by Coco Martin because of the way it stacks the different components to the design (reminiscent of the light unique look). I believe I could incorporate elements of this design into my own by giving the different petals attached to the main stem uniformity so they are not organized so geometrically which can sometimes feel quite clinical and boring.

### Initial Idea 5

Top View



Perspective View



Side View



One area I could include a light bulb could be in the center where it seems to fit in nicely. This will also make the model seem like it is built around the light and that it is the center of attention.

The idea for this design was to create another very symmetrical design with two main components that seem to fit into each other and is designed so that a light bulb or a light source can easily be placed inside the model.



The Bouge lamp by Ferruccio Laviani has a very intriguing scroll design that I believe looks well to me design. I really like how there are many loops that are present which I think gives it a more exciting look instead of them simply being together.

I was also intrigued that the natural shape of a sea horse seems to share the scroll design much like my lamp inspiration. I really like the unique texture on the sea horse with horizontal lines with several different gradients.

Seahorse Recording



### NATURAL HISTORY MUSEUM



As well as different shapes, I wanted to appear different patterns too.

### V&A



The chairmaker, 'Tahari', above caught my attention because of how it used pattern and texture to create quite a natural look, as well as the materials used that let it light in a different color. I also like how it is centered around one point and the lines vary in size as they get closer to the middle.

I really like the simplicity of these two lamp shades, as well as the geometric patterns on their right, and the more natural design on the left.



What I really like about the Helanda Chandelier is how it contrasts from the surrounding architecture that is quite traditional and is very new-looking in a modern design because of its color and unique form. I also appreciate how the design has many different unique pieces that have been assembled to create one incredible design. I also think it resembles balloons or some sort of marine creature, giving it a sort of floating effect.

## Through Models

### Experimentation with Initial Model 4



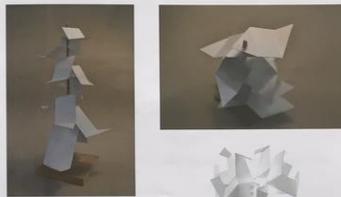
By experimenting with the model for initial idea 4, I have created various patterns and shapes that all contrast nicely. I have done this by rotating the petals around a vertical axis to make more unique geometric forms. The reason I have done this is to make a design that is more visually intriguing and exciting through an escalating figure.

I can further develop this by introducing a light source to understand and explore how the petals disperse the light. I can then amend the design to ensure it is both aesthetically and practically optimized by varying the shapes of the petals.



## Extending Ideas

### Initial Model of Idea 4



I have developed this model by varying the sizes and shapes of the petals, which have lost uniformity, but I believe it is more unique. I have developed it in this way because I think it creates a wider range of petal shapes, which is more visually intriguing.

I have also spaced the layers apart, which I have done to give it a more natural look and this will help to create more shadow when I add a light source, distributing the light randomly, to create more interest.

I found the Glow Mini Palluco as a good visual link because of the paper fabric style of the lamp and how similar shapes seem to be randomly placed. I could use inspiration from it by incorporating a more circular organisation, rather than solely vertical.

### Initial Model of Idea 5



My first design is based on the shape of a seahorse with its natural curves. I felt that repeating this shape a number of times would create an impressive base design for my lamp.

I have further developed the idea by adding extra components that are shorter and without the intricate curve design. I have done this to create more composition within the design, and to add variation and symmetry.



### Experimentation with Initial Model 5

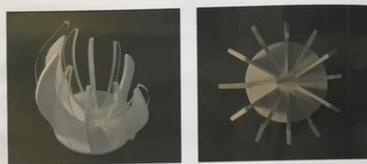
I began by rotating the shorter components and then experimented by inverting them to create contrast between the curves and a sharper, more angular design. I have done this to create a more striking model, which rather than having too much symmetry, believe it resembles the flickering of flames.

Moving forward, I think I can further develop this model by inverting the whole design, to make it a hanging lamp, as well as adding the same design on top to create symmetry and to make it more eye-catching and extravagant lamp.



## Experimenting with form and materials

### Model Idea 1



I wanted to vary the colors and number of curves in my model to explore different possibilities to develop my design. I structured the design with a light gradient, from the tallest component, down to the shortest one.

I also contrasted the length and width of the individual curves and colored them to create an interesting pattern which looks like a descending slope around the model.

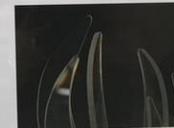


I used two different colors of acrylic, white and clear, to create contrast which I believe creates a dynamic design, especially with the white components visible through the transparent ones.

### Model Idea 1



To develop the design, I will test how it might look as a hanging lamp by rotating the model and having the components drooping from the circular base. I will also develop the individual components by creating a more geometric shape while varying the size of them, so they contrast and are more visually exciting.

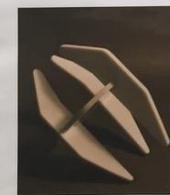
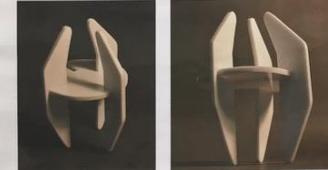


Instead of a consistent pattern I also tried two contrasting sections, mirroring the opposing components in a different color.



### Developed Model 1

For my development, I explored more geometric shapes for my model to create a more interesting design and continued to vary the size of the components for contrast and broader selection. I also raised the circular base to a more central position, making it more versatile as a design.



I also explored different techniques of interlocking the components into the circular base, as the center, creating slots in both for them to fit together. The images show that I varied the distance the components protruded which I think creates more contrast and is more visually engaging.

## Essay: Analysing Product Design



