

Art and Design Network

**Promoting a Creative and
Personal Design Process in
Three-Dimensional Design**

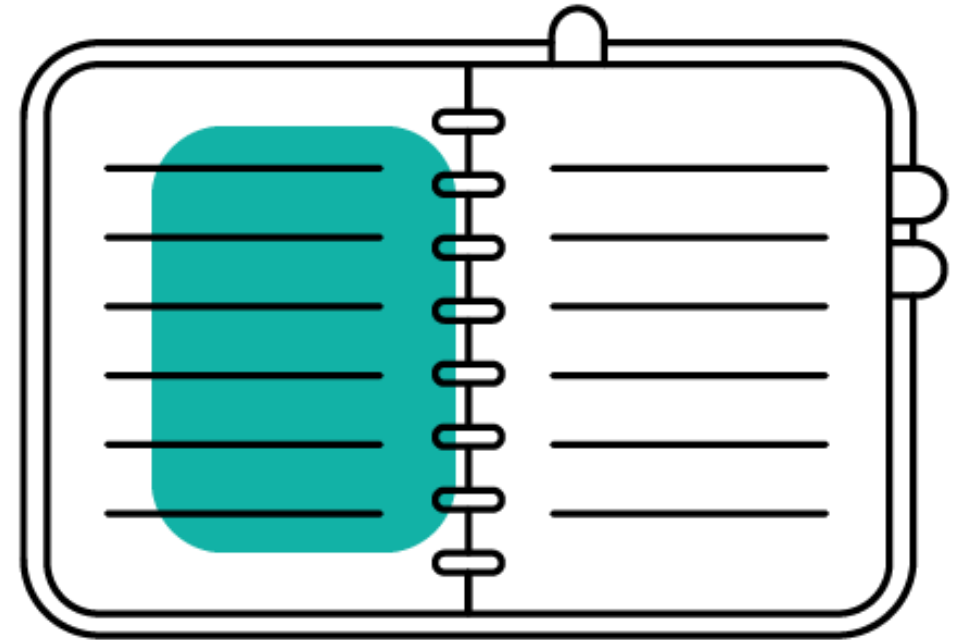
Mauricio Mendes

Credible specialist for Three-dimensional
Design



Agenda

- Welcome and introductions
- Three-dimensional Design – Specification overview
- Design Process and Assessment Objectives (GCSE)
- Ideas and strategies for promoting a creative and personal design process
- Resources
- Q&A and opened discussion





Three-dimensional Design
GCSE specification
overview

Three-dimensional Design – GCSE Specification Overview

Three-dimensional Design is concerned with the **designing, prototyping, modelling or making** of functional and aesthetic consumer products, interiors and architecture.

Students should engage with **appropriate processes, materials and construction techniques**, using **maquettes, models and working drawings** to help **take their initial ideas through to realisation**.

Three-dimensional Design – GCSE Specification Overview

In addition to any specialist requirements listed under the chosen area(s) of study, students should develop a practical knowledge and understanding of:


- the **use of formal elements** and **visual communication** through a variety of approaches
- the **use of observational skill** to record from sources and communicate ideas
- **characteristics of materials** such as resistance, malleability, recyclability and sustainability
- **the elements of three-dimensional design** such as light, space, form, scale and proportion
- the effects and **creative potential of combining and manipulating different two-dimensional and three-dimensional materials and media**
- the use of digital and/or non-digital applications.

Three-dimensional Design – GCSE Specification Overview

GCSE Areas of study:

- Architectural design
- Interior design
- Product design
- Environmental/landscape design
- Sculpture*
- Design for theatre, film and television
- Jewellery and body adornment
- Ceramics

*Art, Craft and Design students are not permitted to select both sculpture in Fine Art and sculpture in Three-dimensional design as their chosen areas of study.

A large teal circle is centered on a white background. Inside the circle, the text "What areas of study are you currently exploring in your schools?" is written in a black, sans-serif font, centered horizontally and vertically.

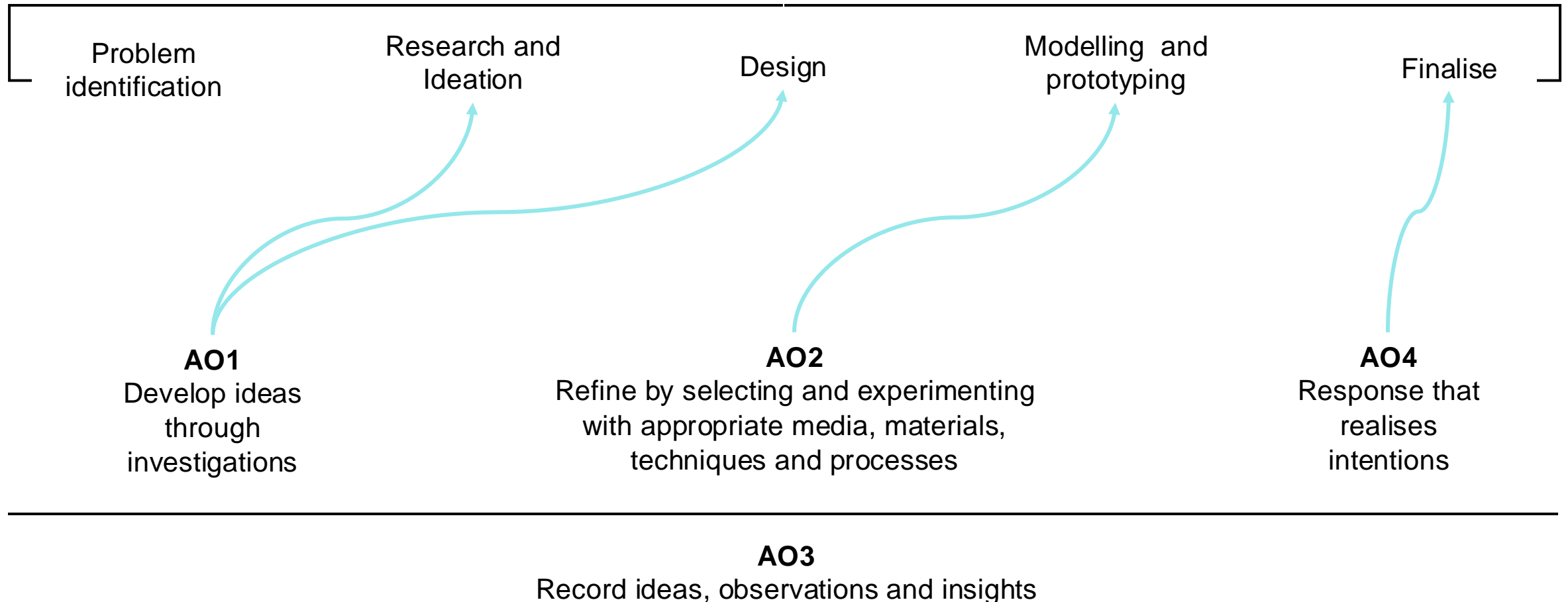
What areas of study are you
currently exploring in your
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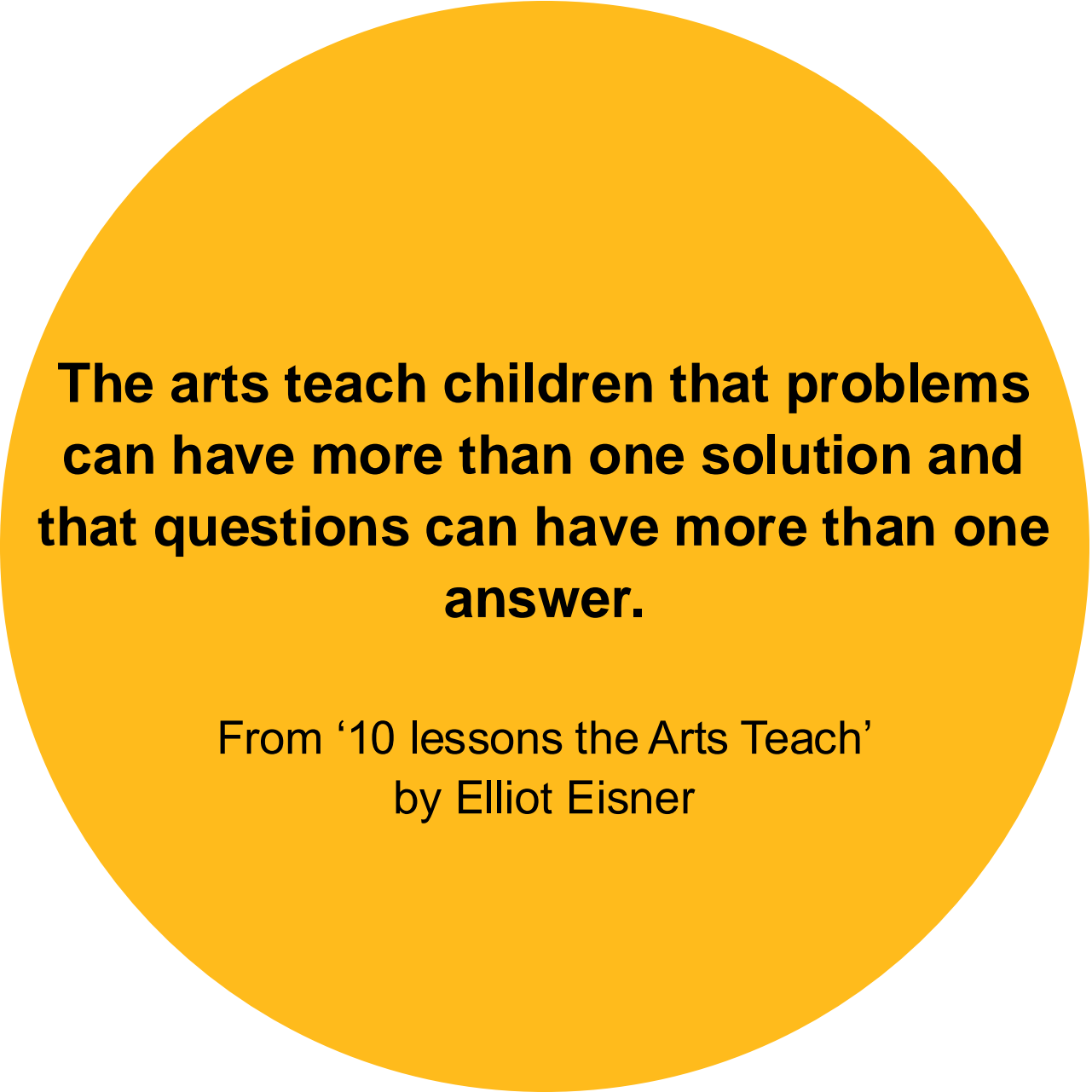


Design Process and
Assessment Objectives
(GCSE)

Design Process and GCSE Assessment Objectives (AO)

Design Process





**The arts teach children that problems
can have more than one solution and
that questions can have more than one
answer.**

From '10 lessons the Arts Teach'
by Elliot Eisner

'Sketches of Frank Gehry' a documentary by Sydney Pollack

"Is starting hard? You know it is.

I don't know what you do when you start, but I clean my desk, I make a lot of stupid appointments, that I make sound important. Avoidance, delay, denial.

I'm always scared that I'm not going to know what to do. Is a terrifying moment!

And then when I start, I'm always amazed.

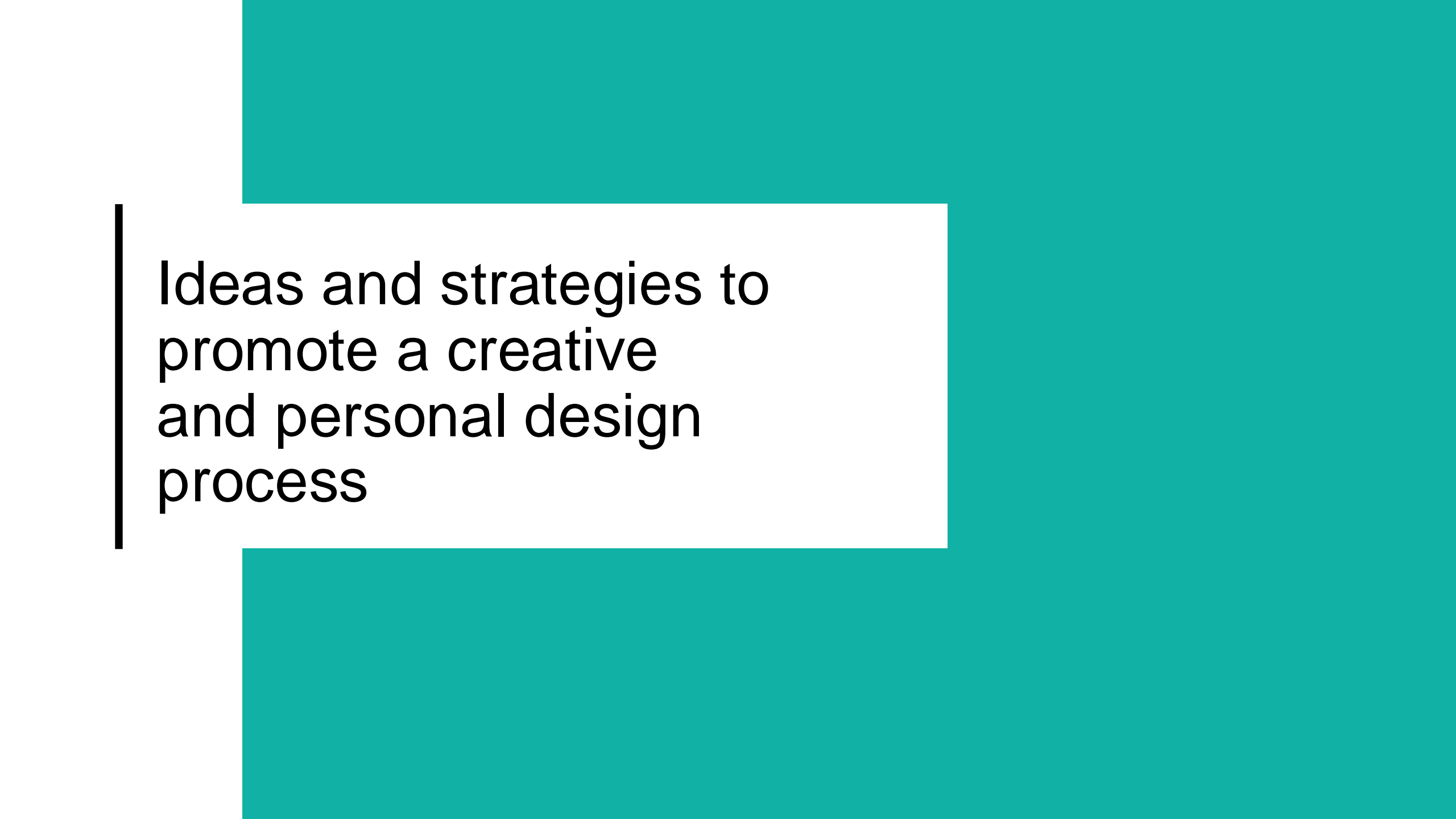
Oh, that wasn't so bad!"

Frank Gehry in 'Sketches of Frank Gehry' a documentary by Sydney Pollack



How do you start your projects?

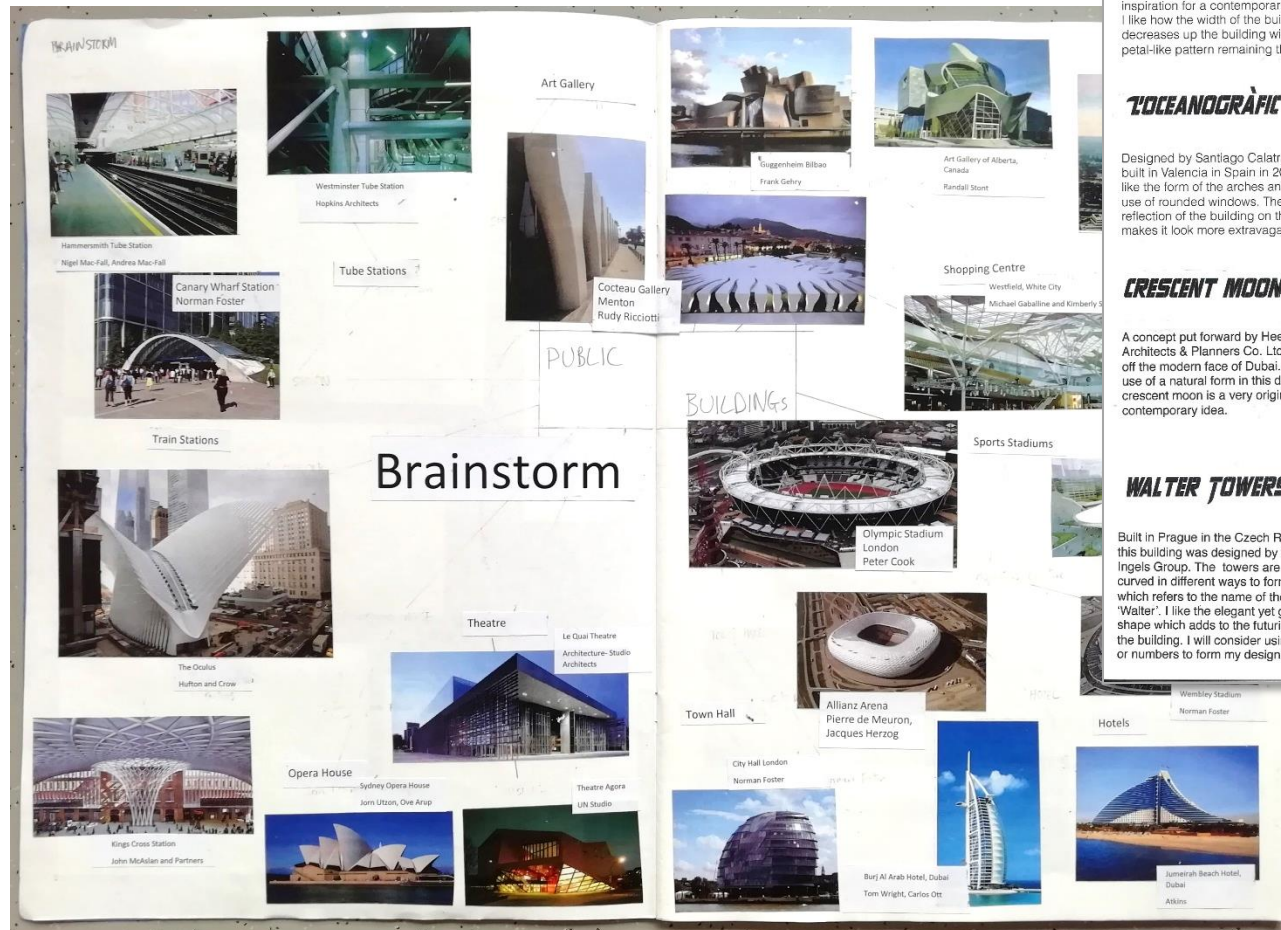
What are the key moments to
promote a creative
and personal design process?

The image features a teal background with a white rectangular area in the center. A vertical black line is positioned to the left of the white area. The text is centered within the white area.

Ideas and strategies to
promote a creative
and personal design
process

Ideas and strategies to promote a creative and personal design process

Starting points and Research



CONTEMPORARY BUILDING RESEARCH

MIRAE LINHA TOWER

This building is a skyscraper in Pyongyang in North Korea. It was built in 2015 with an architectural style of futurism and so would be a suitable inspiration for a contemporary design. I like how the width of the building decreases up the building with the petal-like pattern remaining the same.

OCEANOGRÀFIC

Designed by Santiago Calatrava and built in Valencia in Spain in 2003. I like the form of the arches and the use of rounded windows. The reflection of the building on the water makes it look more extravagant.

CRESCENT MOON TOWER

A concept put forward by Heerim Architects & Planners Co., Ltd. to show off the modern face of Dubai. I like the use of a natural form in this design. The crescent moon is a very original and contemporary idea.

WALTER TOWERS

Built in Prague in the Czech Republic, this building was designed by the Bjarke Ingels Group. The towers are each curved in different ways to form a 'W' which refers to the name of the building 'Walter'. I like the elegant yet geometric shape which adds to the futuristic look of the building. I will consider using letters or numbers to form my design.

REN BUILDING

In Shanghai this idea was proposed by Bjarke Ingels Group. The two sections of the Ren Building interlock giving the building a stretched and sweeping look. The form looks elongated although the lines are proportionate and precise. I like how smooth the form is and the simple, repeated, spotted pattern.

DUBAI TOWERS

The building is in Dubai and was designed by Tsvdesign. The curved and angular form of the towers is similar to a candle shape. I like how it is made up of a group of distinct towers which are separate but the eye-catching pattern of them brings them together in contrast to most other buildings. This contributes to the futuristic look.

NEUER ZOLLHOF

Designed by Frank Gehry, this whacky design is very contemporary due to the wavy form and metallic materials used. It was built in Germany in 1999. I like the random placement of curves along the building which give it an improvised look.

DANCING HOUSE

Designed by Frank Gehry and built in the Czech Republic from 1992-96. I like how the squashed building is formed using glass to make it quirky. The building was inspired by the bombing of Prague which was incorporated in the design as a moving building.



Ideas and strategies to promote a creative and personal design process

Starting points and Research

Natural Forms Recording



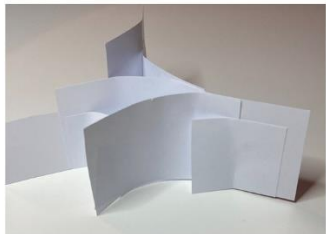
Natural forms first-hand recording



Natural forms drawing



Natural forms first-hand recording



Personal response



Natural forms first-hand recording



Natural forms first-hand recording



Natural Form



Natural forms first-hand recording



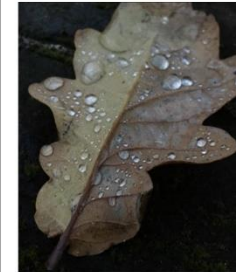
Natural forms drawing



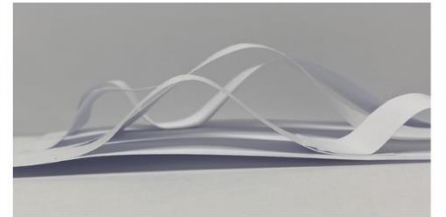
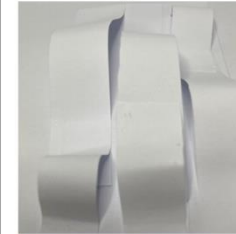
Natural forms first-hand recording



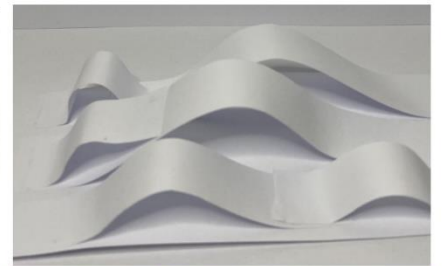
Personal response



First-hand recording



Personal response



First-hand recording



Natural forms recording - second hand



Ideas and strategies to promote a creative and personal design process

Starting points and Research

The power of bold and vibrant patterns

Bold and vibrant patterns can also be used to show the artists power over patterns. This can be seen in the Memphis movement which consists of many different patterns and bold colours being put together to create a striking piece. This shows the power of manipulating patterns as they can affect people's view of the object

Starting point

The power through strength and presence

This is the beginning of the architectural process. It is a powerful achievement as the architect's vision is brought to life through the use of raw materials.

Research

Bold and vibrant patterns can either make someone feel restricted, repressed or free. This links to power as it can affect the viewer's perspective of the object for example a squarer, symmetrical pattern like in the gherkin makes the building look more sophisticated and powerful whereas other buildings such as the contemporary version of colour block architecture can use bold and vibrant patterns for a sense of freedom from power/ the regular norms of society

Starting point

Power can be shown through solid or building by using raw, heavy materials. They can be perceived as powerful because of the strength of the raw materials such as concrete, which looks brutal and hard-hitting.

Other objects, such as chairs, use simple structures to give off a feeling of power and stability through its strength.

Research

power can be shown/presented through nature. For example, the natural hazards which have the power to destroy or manipulate objects or whole cities. The weather is destructive so power can be presented through its destructive nature but also its force.

The power of nature

Starting point

Research

Natural hazards such as tornadoes or tsunamis as very dangerous and destructive. Their power can alone destroy cities or countries such as Japan. This power can be presented through product design using their structure for example the twisting and turning of a tornado can be presented in tables and building. The base of a table could be that twist shape which is still dainty but can hold up the table just as the form of a natural hazard which hold enormous clouds above its smaller body.

Power can be perceived through the imbalance/balance of power. This can be shown through many different product designs and building like having one building larger than another which are right next to each other. This could show the imbalance of power as the bigger building towers over the smaller one. It could reflect the power struggles in society which could make a striking statement.

The imbalance/balance of power

Power can be perceived through the balancing of objects. For example, multiple chairs on one. This proportion is completely wrong however the ability for it to balance makes it impressive. This links to power as it is the power of balancing objects which deceives the viewer. The tension that is also created has power over the viewer as they could feel if they cannot keep their eyes off the object because if they do it could topple over immediately.

Starting point

Research

ESA



Ideas and strategies to promote a creative and personal design process

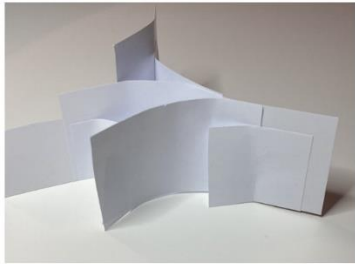
Designing Ideas

Initial Idea 6

This natural form inspired my lamp due to the hollow form of the tree trunk. Therefore, I decided to exploit negative space myself making it the center of the lamp. I really like the disproportionality created as certain parts of the tree are bigger and taller and some the opposite however, we see them all form a similar shape to each other. The tree's pattern is quite intricate however the shape itself is quite simple which is another detail which I applied to my lamp.



Natural form first-hand recording

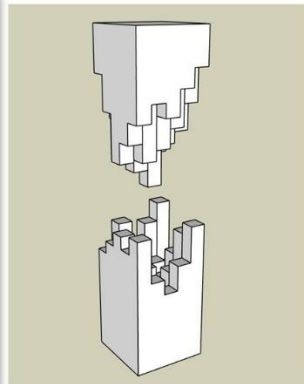


I developed this concept into a card model exploring negative space.

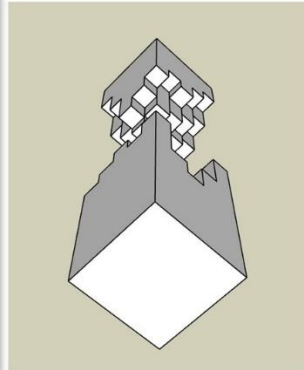
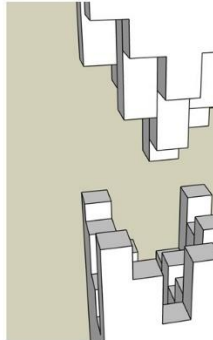


Flush Mount Brass Meteors Sputnik Light

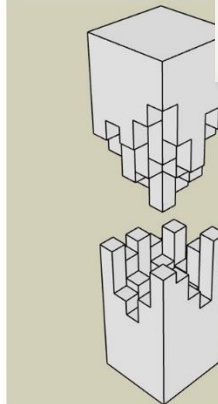
In order to develop my idea further I decided to incorporate the way the lamp almost explodes from its center point giving life and motion to the lamp. Its form is very fragile making it more elegant whilst the robust middle point and the material of the lamp contrast this.



This lamp looks to exploit the negative of the lamp in order to put into motion the different parts fall irregularly give one side pushes in an outward motion pushes inward. This uneven pattern at texture to the lamp.



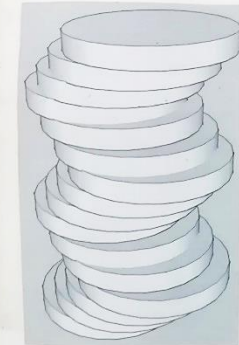
The shape of the lamp is very geometric however this is contrasted and balanced by the randomness in the lengths of each part similar to the randomness we analyzed in the tree. The overall form is very robust and balance as each part of the lamp looks to match the other oppositely.



Initial Idea 2

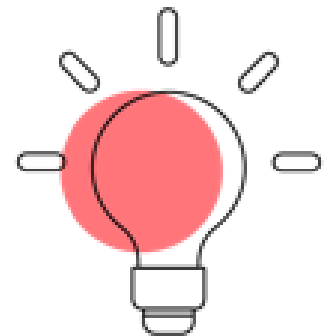


This building was inspired by the absolute towers by Ma Yungson. In this building I liked the way the way there were individual ovals stacked on top of each other, and then twisted. It looked very organic and smooth. Even though it only consists of one shape and a simple concept (being twisted), it stands out among other buildings, because of its organic and original look. The tall slender building gives the illusion that it is taller than it actually is. The windows flow round the oval, which lets lots of light into the building. The formal elements used in this building are shape, texture and tone. This building uses shape as it only consists of ovals being twisted, which gives it its tall futuristic look. It uses texture, as there are windows round the edge of the ovals, which gives the building a smooth and flowing texture. It uses tone as the tone on the building lets lots of sunlight into the building which makes it look very bright.



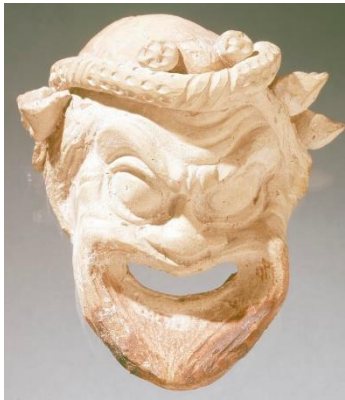
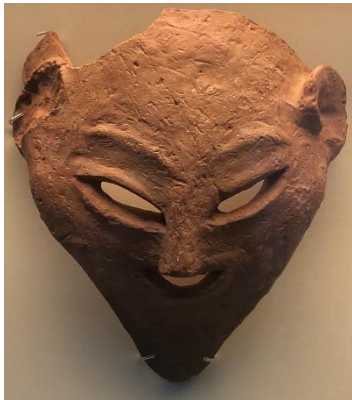
This building consists only of ovals. They are placed in a zig-zag way, which makes it eye catching due to the abnormal way they are placed. This is a very modern building, and has a very useful structure as each circle shades the next, so in summer it can shade it from the sun, but still let light brighten up the room. The stacked circles makes it seem taller than it is. In this building I want the windows to go round the circles, which will add to the modern look and illuminated rooms inside.

The formal elements used in this building are shape, texture and pattern. This building uses shape as it is only made out of circles stacked in a zig-zag format which makes it look angular and stretched. This building uses texture as the smooth edges of the circles, which are going to be used as windows gives a glossy and reflective look. This building uses pattern as the zig-zag makes the building look abstract and irregular, which isn't seen very often.

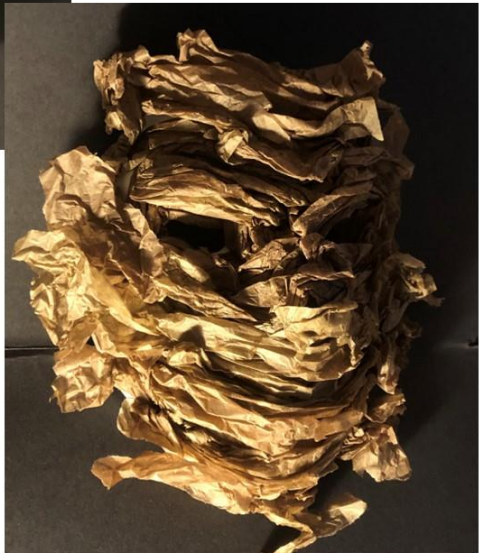
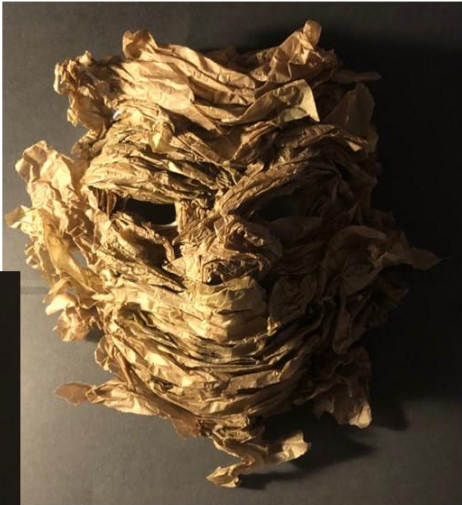
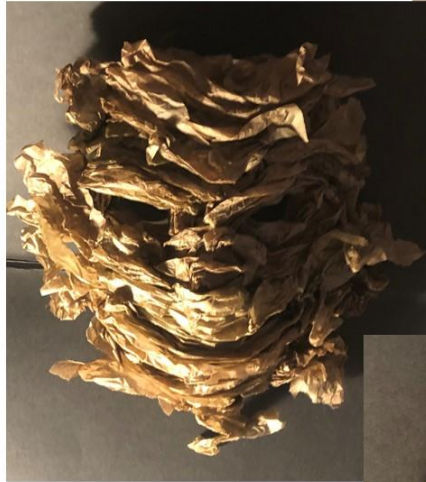


Ideas and strategies to promote a creative and personal design process

Designing Ideas



Initial Idea 4

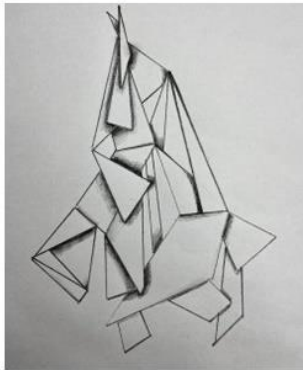


Right after presenting
the project brief, a student
turns to you and says:
**‘I already know what I will do
for my final piece’.**

What would you do?

Ideas and strategies to promote a creative and personal design process

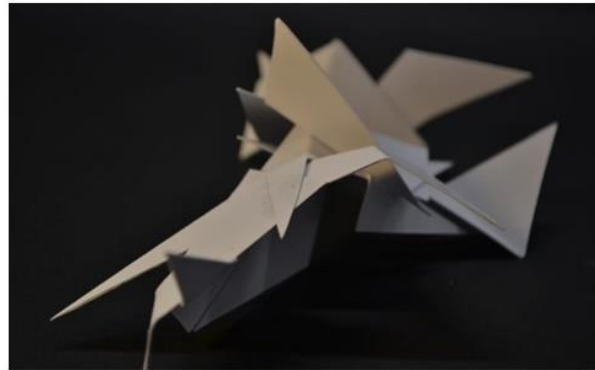
Model making by experimenting with form and materials



Initial Idea 1

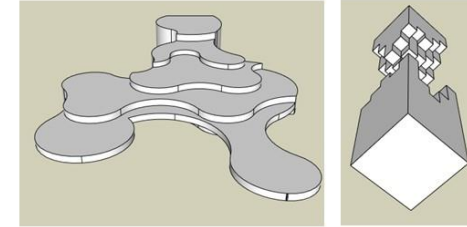


Card model



Glow by Pallucco

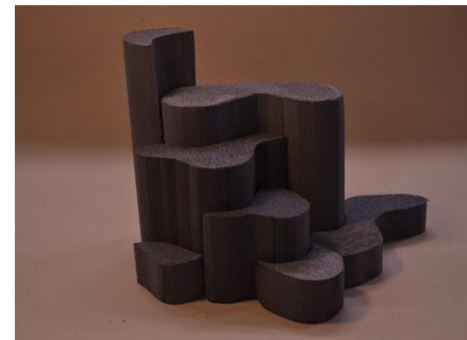
I was inspired by this Lamp by Pallucco due to the contrast between simplicity and complexity. The shapes are all similar to some extent as they are also all brought together in unity through their shared colour. I really liked the slick look given by the paper like texture on the lamp and therefore I decided to apply this to my own lamp. Overall this simplicity is balanced by the complexity in the different ways which the paper like layers fold bringing balance to the lamp. Another thing which inspired my Card Model was the centre point as there is a clear point which the lamp starts from giving the lamp an organised look which I also decided to apply to my own lamp as we see the card model grow outward from the top.



Model 2

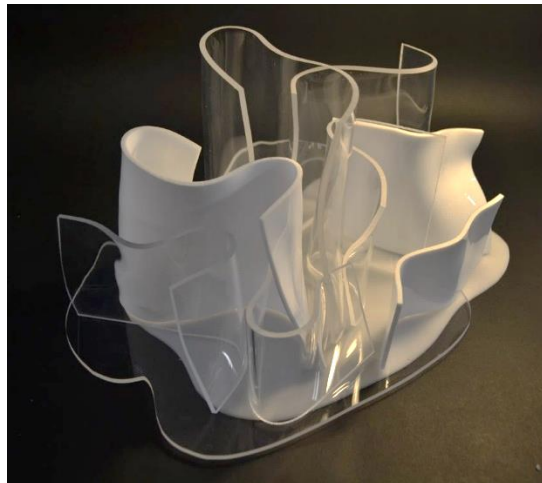
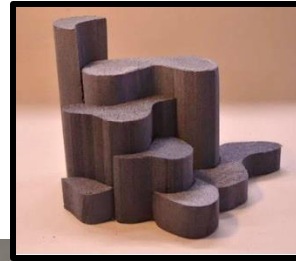
-Inspired by initial ideas 4 and 6

I decide to develop this model inspired by initial ideas 4 and 6 in order to experiment with fluidity. Initial idea 6 focused on structure and geometric discipline where in this model I wanted to experiment with the upward movement of the shape. Initial idea 4 on the other hand brought a factor of fluidity inspired by the movement of water on a leaf which brought layering to the piece. The curved shape and form throughout is very simple and brings unity around a point.



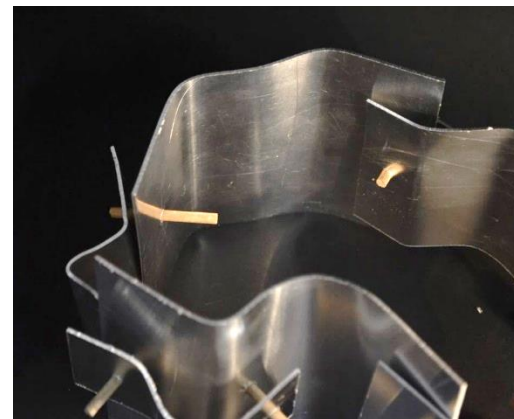
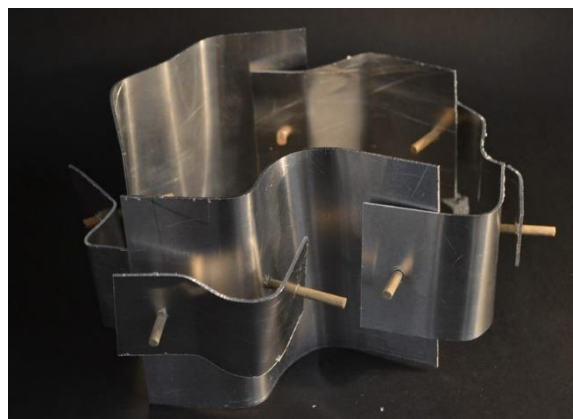
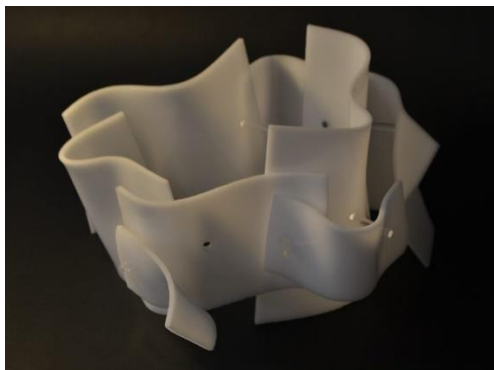
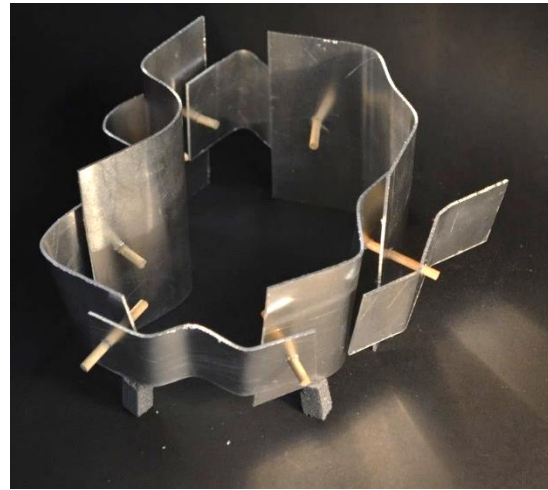
Ideas and strategies to promote a creative and personal design process

Model making by experimenting with form and materials

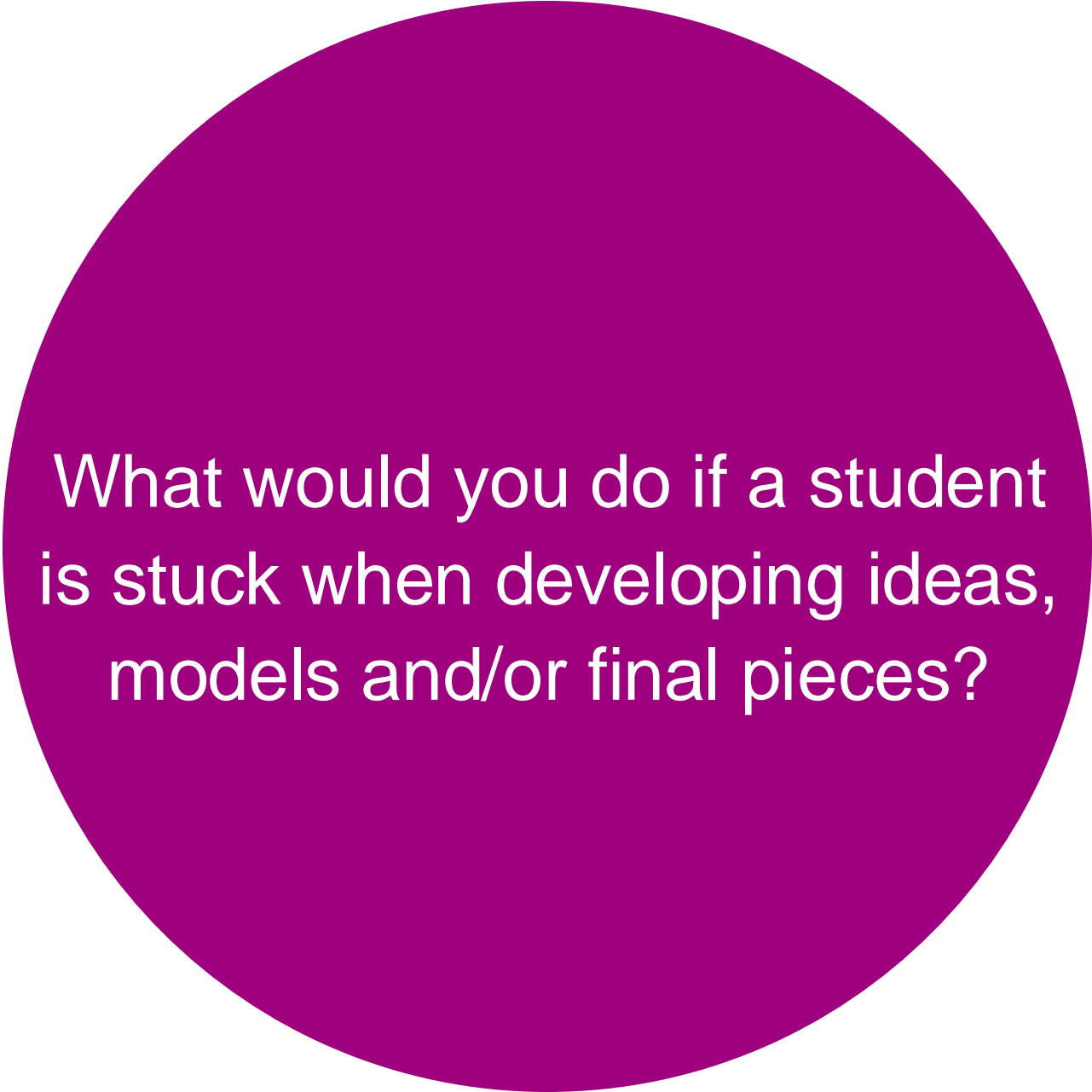


Ideas and strategies to promote a creative and personal design process

Model making by experimenting with form and materials



Ingo Maurer - Zettel's 5 Pendant Lamp

A large, solid purple circle is centered on a white background. Inside the circle, the text "What would you do if a student is stuck when developing ideas, models and/or final pieces?" is written in a white, sans-serif font, centered horizontally and vertically.

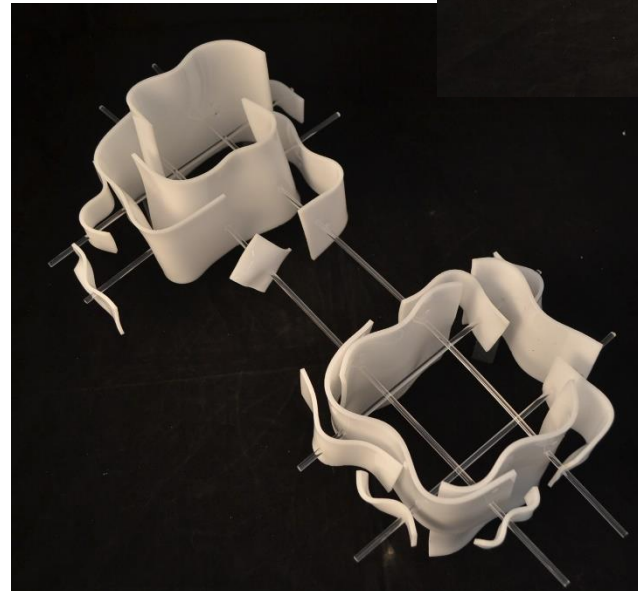
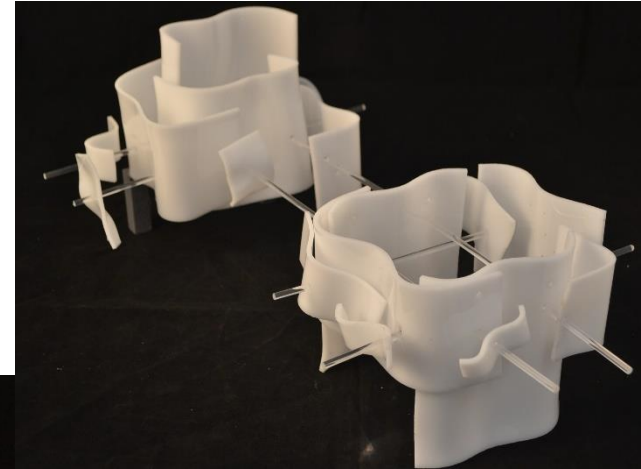
What would you do if a student is stuck when developing ideas, models and/or final pieces?

Ideas and strategies to promote a creative and personal design process

Further research and analysis for final design



24 Karat Blau by Ingo Maurer



First Prototype



Natural History museum crystal

Ideas and strategies to promote a creative and personal design process

Further research and analysis for a final design



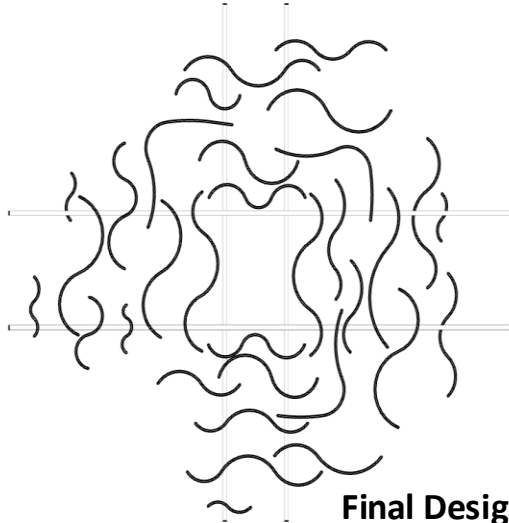
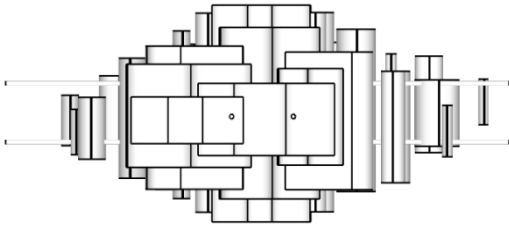
Skyline Lamp Series-Folkform



Lola Lighting – Cloud Pendant



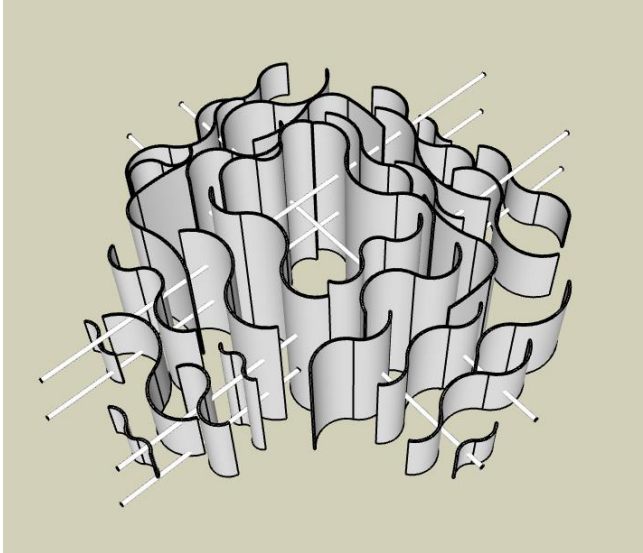
Rockett St George – Cloud Pendant Ceiling Light



Final Design

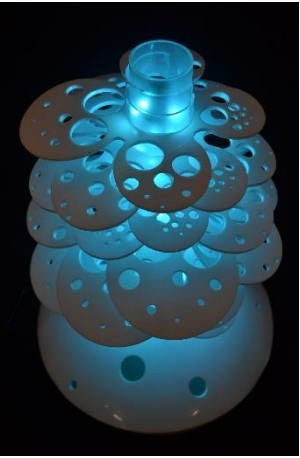
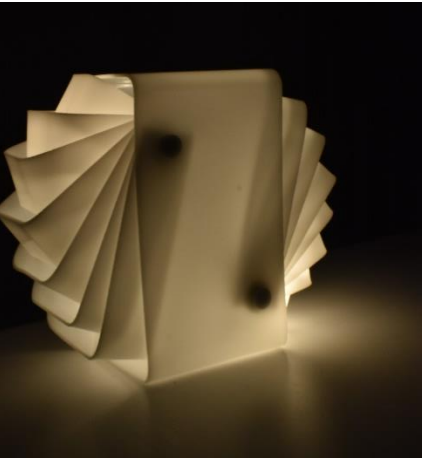
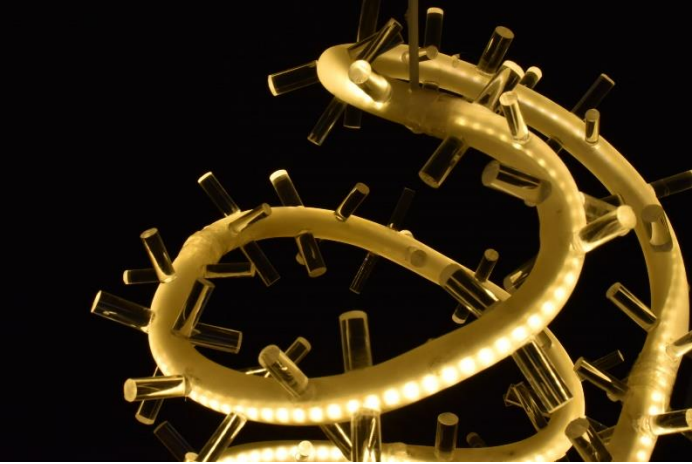


Final piece



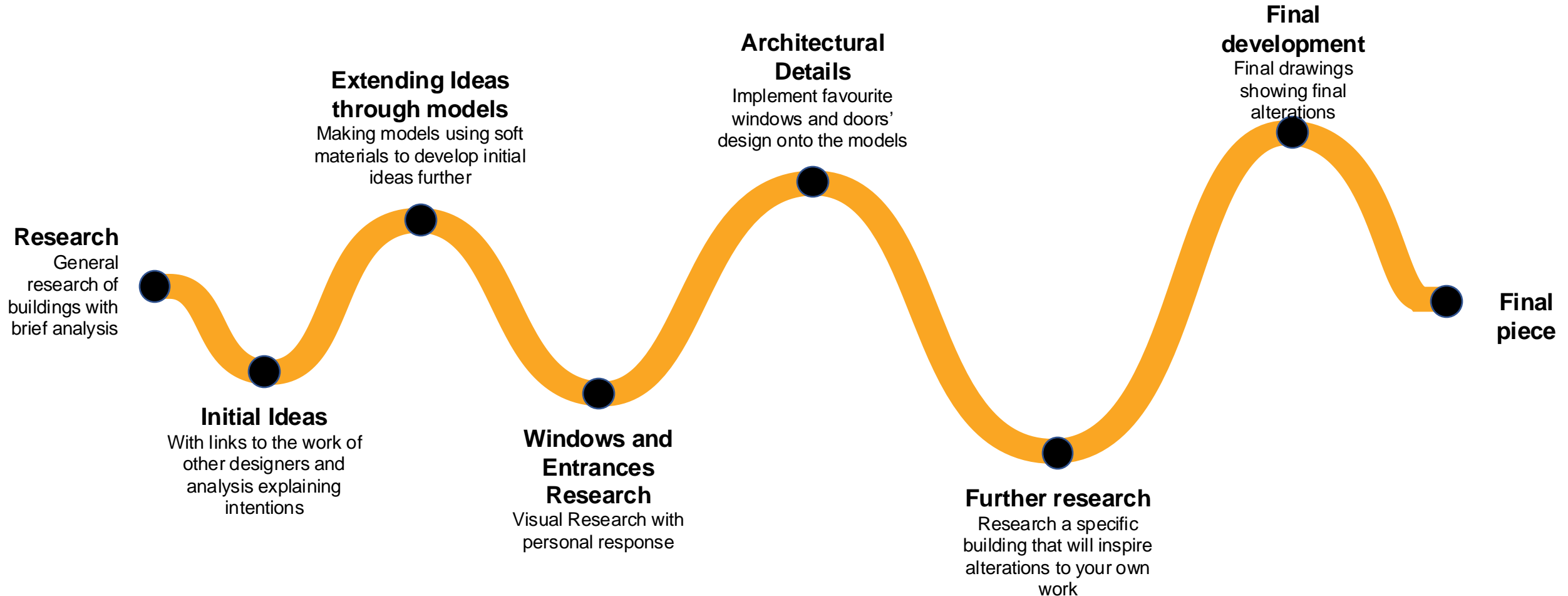
Ideas and strategies to promote a creative and personal design process

Final pieces



Project walk-through

Architectural Project

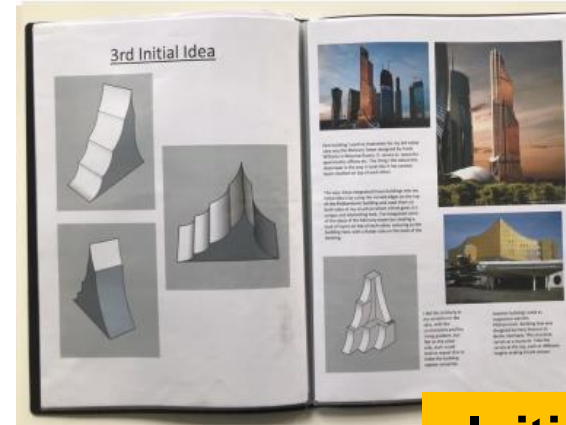
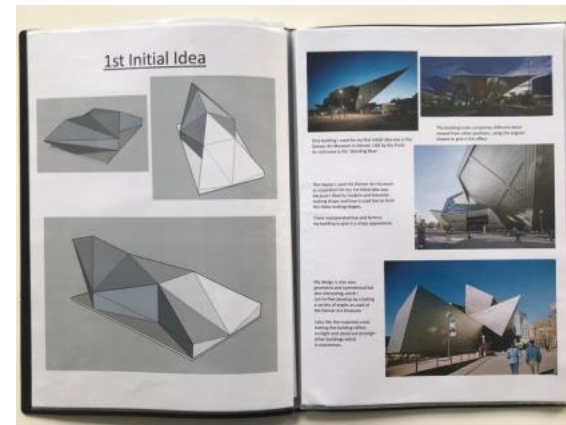


Project walk-through

Architectural Project



Research

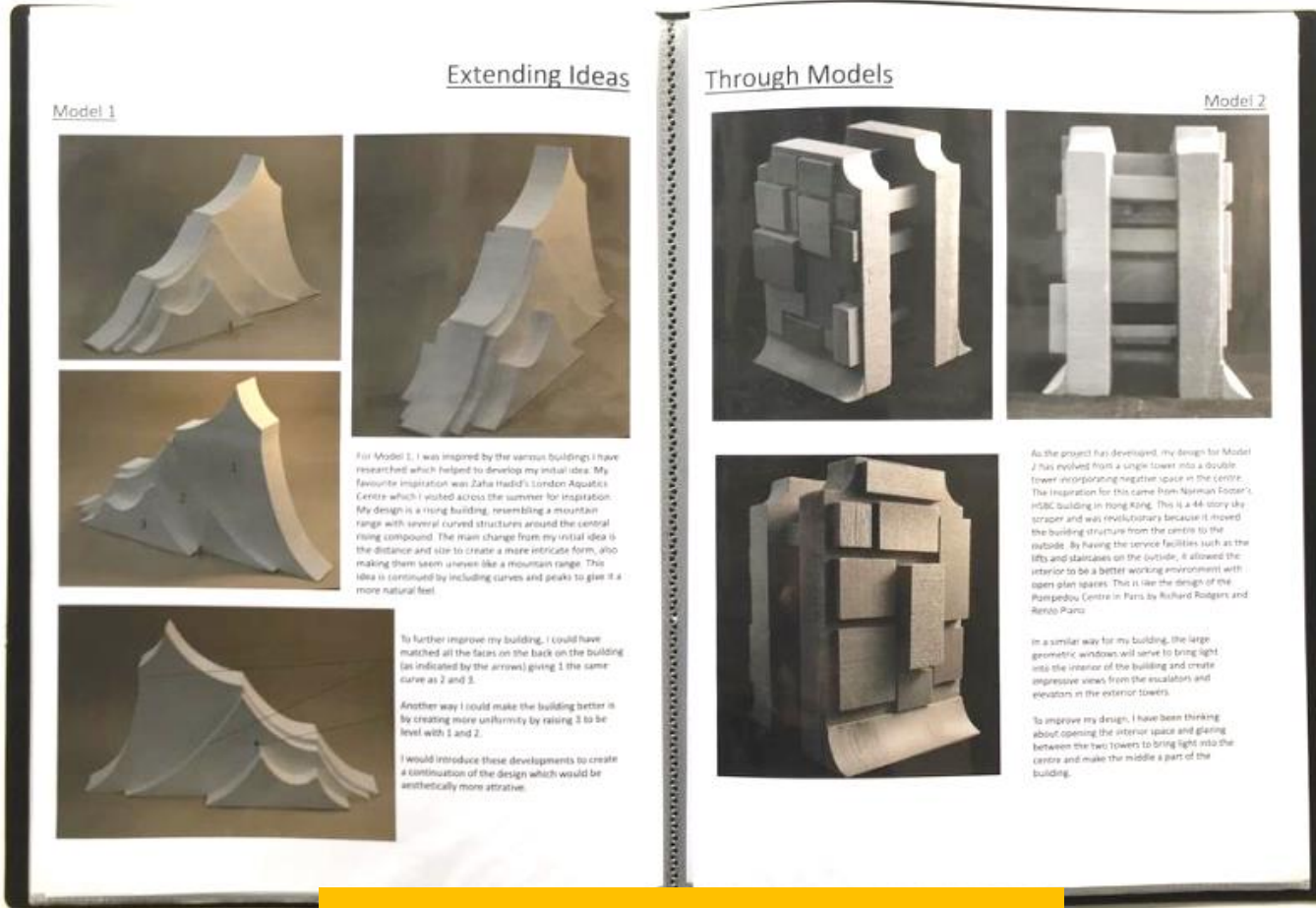


Initial Ideas



Project walk-through

Architectural Project



Extending ideas through models



Windows and Entrances Research



Project walk-through

Architectural Project



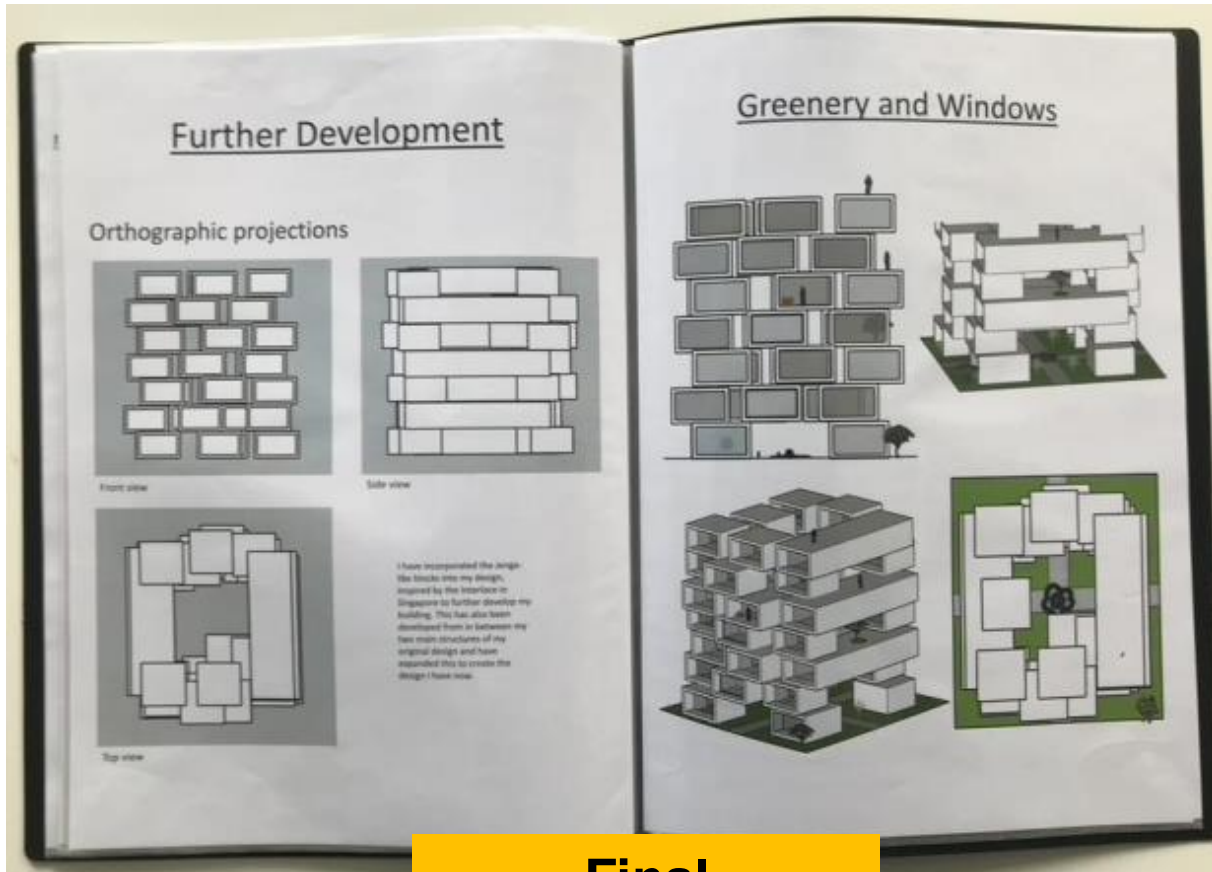
Architectural Details




Further Research

Project walk-through

Architectural Project



A large, solid yellow circle is centered on a white background. Inside the circle, the text "What other strategies do you use in your school to promote creative and personal work?" is written in a black, sans-serif font, centered horizontally and vertically.

What other strategies do you use in your school to promote creative and personal work?



Resources

Pearson Resources

- [GCSE \(9-1\) Art and Design specification](#)
- [Pearson Edexcel GCSE Art and Design \(2016\) Exemplar Gallery](#)
- [Exemplar from pages 28–31](#)
- [Drawing in Three-Dimensional Design](#)



Other Resources

SketchUp

https://www.sketchup.com/en/products/sketchup-for-schools?srsltid=AfmBOop9-mNT82dA6hxoLKtykulkT1auxc2PTe21It9-PIJ3cu_wpP8r

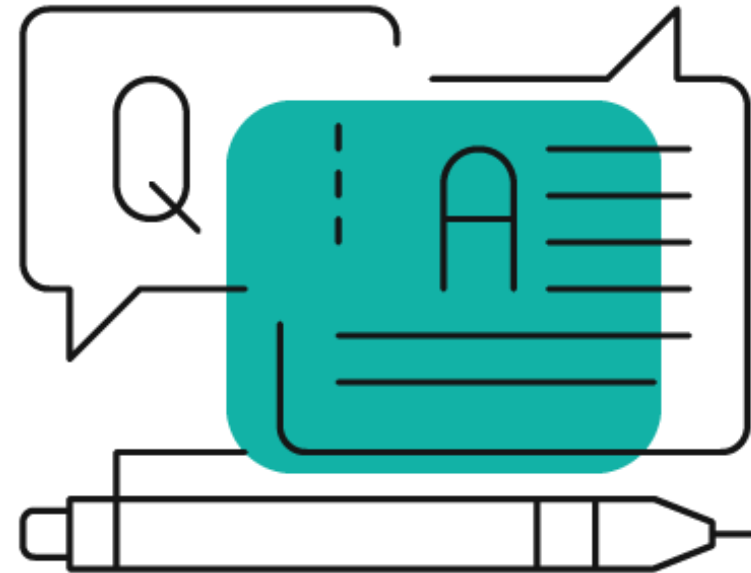
<https://learn.sketchup.com/>

Architectural Modelmaking, by Nick Dunn, 2010

Drawing for Product Designers, by Kevin Henry, 2012

Q&A and discussion

- Questions?
- Thoughts?
- Feedback?
- Future network events?



Subject Advisor Support

Our subject advisors are experts in their fields and are here to support you throughout the year.

Art and Design

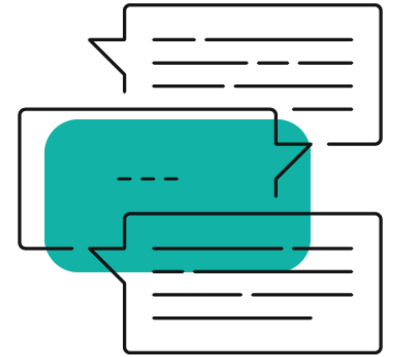
Email: TeachingArtandDesign@Pearson.com

Phone: +44 (0) 344 463 2535
(Mon–Fri, 9.00–17.00)

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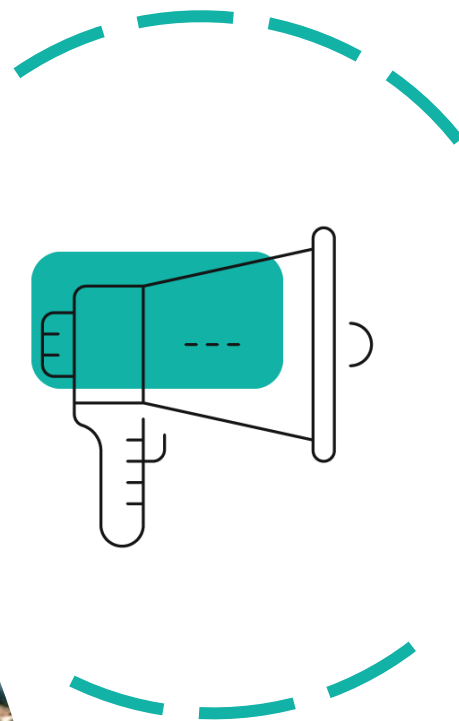
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