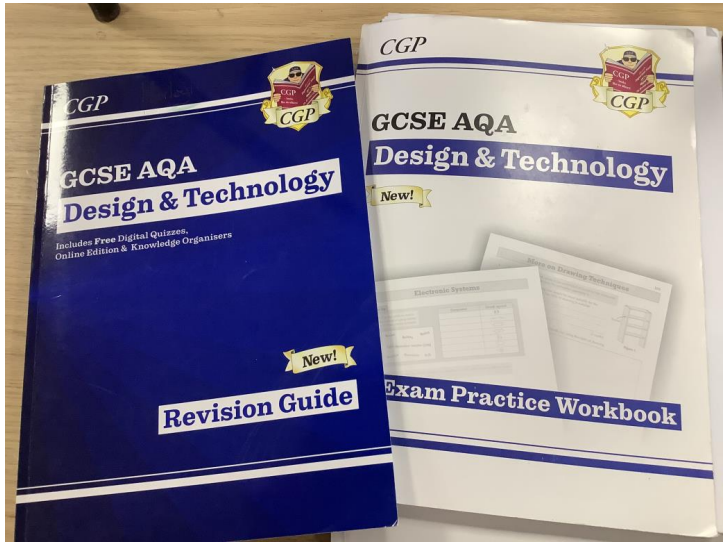
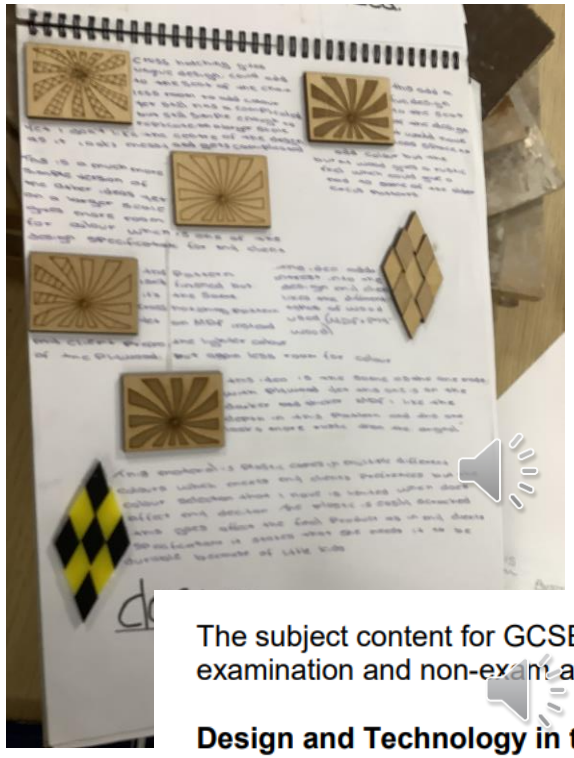
Design and Technology

50% Controlled assessment

50% Written Exam

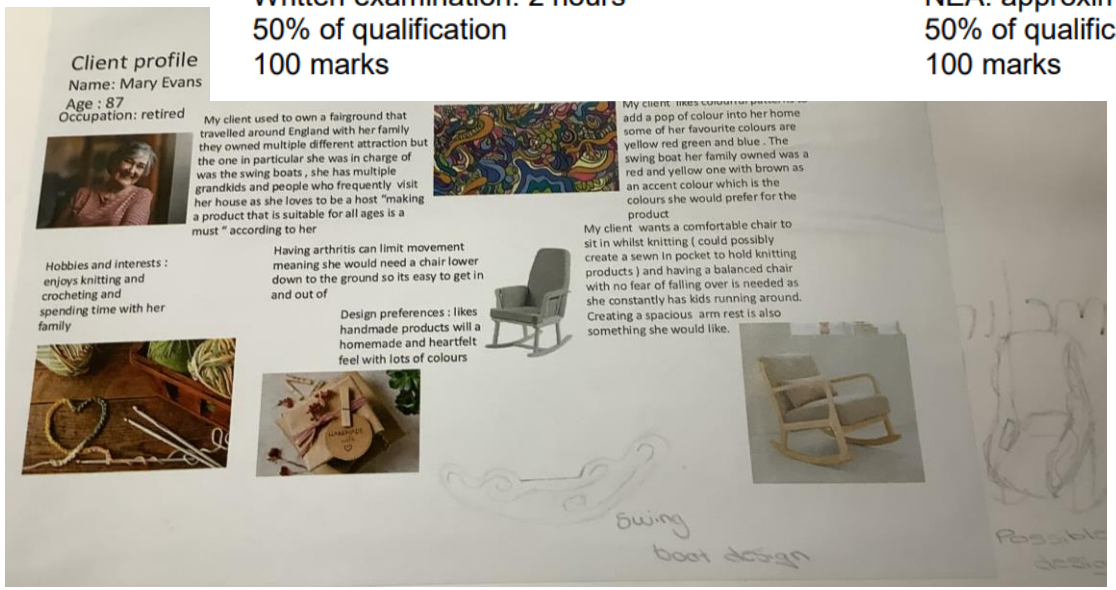


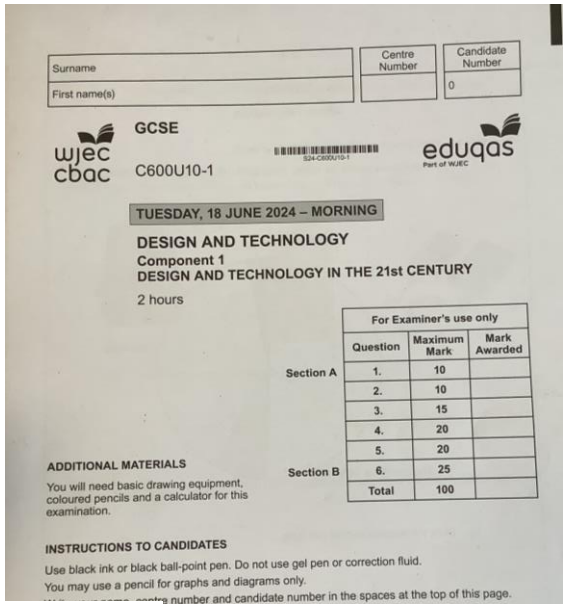


The subject content for GCSE Design and Technology will be assessed in the written examination and non-exam assessment (NEA).

Design and Technology in the 21st Century
Written examination: 2 hours
50% of qualification
100 marks

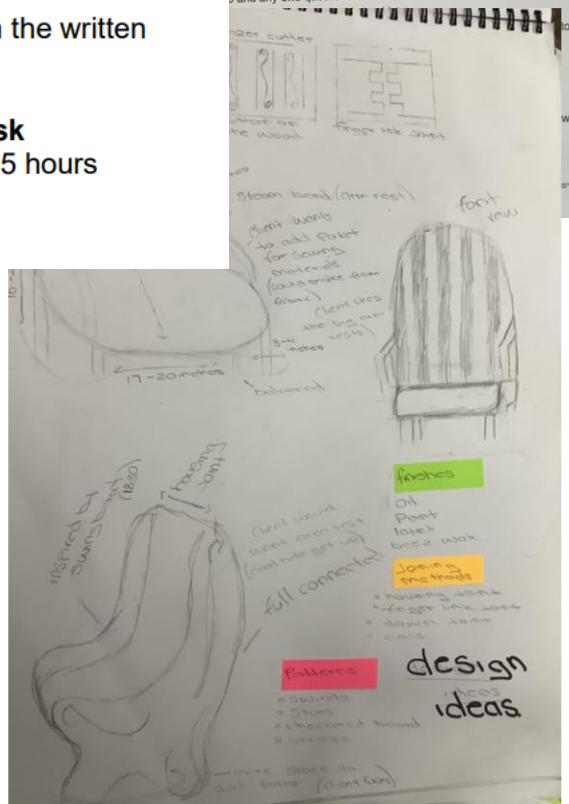
Design and make task
NEA: approximately 35 hours
50% of qualification
100 marks




Surname
First name(s)
Centre Number
Candidate Number
0
wjec cbac
GCSE
C600U10-1
eduqas
Part of WJEC
TUESDAY, 18 JUNE 2024 – MORNING
DESIGN AND TECHNOLOGY
Component 1
DESIGN AND TECHNOLOGY IN THE 21st CENTURY
2 hours
For Examiner's use only

	Question	Maximum Mark	Mark Awarded
Section A	1.	10	
	2.	10	
	3.	15	
	4.	20	
	5.	20	
Section B	6.	25	
	Total	100	

ADDITIONAL MATERIALS
You will need basic drawing equipment, coloured pencils and a calculator for this examination.
INSTRUCTIONS TO CANDIDATES
Use black ink or black ball-point pen. Do not use gel pen or correction fluid.
You may use a pencil for graphs and diagrams only.
number and candidate number in the spaces at the top of this page.
and any one question 6.



Learning Technology Theory, ready for the written exam.

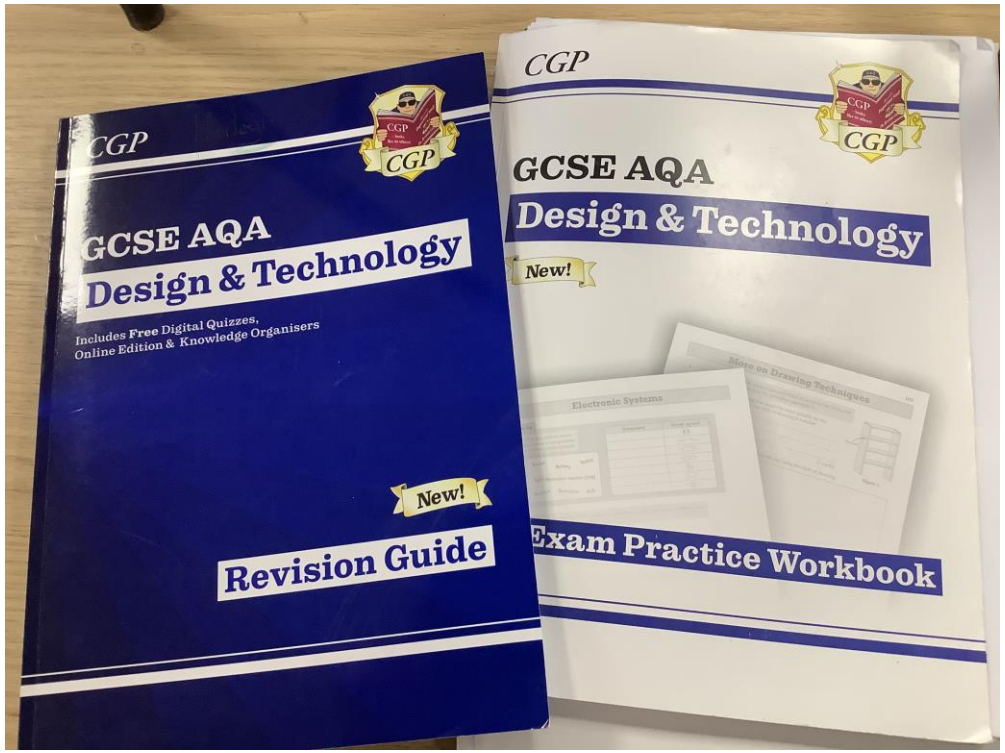
Component 1: Design and Technology in the 21st Century
Written examination: 2 hours
50% of qualification

A mix of short answer, structured and extended writing questions assessing candidates' knowledge and understanding of:

- technical principles
- designing and making principles

along with their ability to

- analyse and evaluate design decisions and wider issues in design and technology.



2.1 Technical principles

Core knowledge and understanding is presented in five clear and distinct topic areas:

- design and technology and our world
- smart materials
- electronic systems and programmable components
- mechanical components and devices
- materials

Learners are required to study all of the content in these five areas, to ensure they have a broad knowledge and understanding of design and technology and that they are able to make effective choices in relation to which materials, components and systems to utilise within design and make activities.

In-depth knowledge and understanding is presented in six clear and distinct topic areas:

a. electronic systems, programmable components & mechanical devices
b. papers & boards
c. natural & manufactured timber
d. ferrous & non-ferrous metals
e. thermoforming & thermosetting polymers
f. fibres & textiles

Learners are required to study at least one of these six areas, to ensure they have an in-depth knowledge and understanding of a specific material area and/or components and systems to support their design and make activities.

2.2 Designing and making principles

Core knowledge and understanding that learners are required to develop and apply is presented in ten clear topic areas:

- understanding design and technology practice
- understanding user needs
- writing a design brief and specifications
- investigating challenges
- developing ideas
- investigating the work of others
- using design strategies
- communicating ideas
- developing a prototype
- making decisions

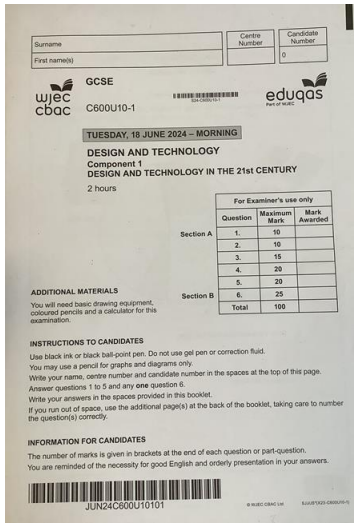
Learners are required to cover all of the content in these ten areas, to ensure they are able to apply a broad knowledge and understanding of design and technology principles within design and make activities.

In-depth knowledge and understanding is presented in five clear topic areas:

- selecting and working with materials and components
- marking out
- using tools and equipment
- using specialist techniques
- using surface treatments and finishes

Learners are required to cover all of the content in these five areas, **in relation to at least one of the topic areas (a to f)** identified in the in-depth knowledge and understanding section of technical principles.

Understanding the properties of different materials. Having an in depth knowledge of one material. Understanding the design process Knowledge of tools and equipment in the workshop and in industry.



Surname / First name(s) / Centre Number / Candidate Number

GCSE

C600U10-1

TUESDAY, 18 JUNE 2024 – MORNING

DESIGN AND TECHNOLOGY
Component 1
DESIGN AND TECHNOLOGY IN THE 21st CENTURY

2 hours

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	Total	100	

ADDITIONAL MATERIALS
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INSTRUCTIONS TO CANDIDATES
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You may use a pencil for graphs and diagrams only.
Write your name, centre number and candidate number in the spaces at the top of this page.
Answer questions 1 to 5 and any **one** question 6.
Write your answers in the spaces provided in this booklet.
If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES
The number of marks is given in brackets at the end of each question or part-question.
You are reminded of the necessity for good English and orderly presentation in your answers.

JUN24C600U10101

Technical principles		
Core knowledge & understanding	Plus at least one from	**In-depth knowledge & understanding**
• Design and technology and our world • Smart materials • Electronic systems and programmable components • Mechanical components and devices • Materials		**a.** Electronic systems, programmable components & mechanical devices **b.** Papers & boards **c.** Natural & manufactured timber **d.** Ferrous & non-ferrous metals **e.** Thermosetting & thermoforming plastics **f.** Fibres & textiles

Designing and making principles		
Core knowledge & understanding	Plus	In-depth knowledge & understanding (in relation to at least one of **a** to **f** above)

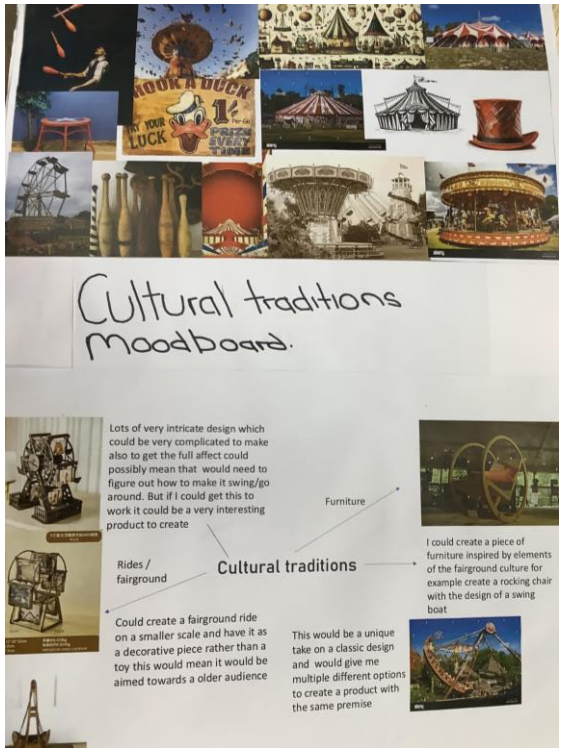
Component 2: Design and make task
Non-exam assessment: approximately 35 hours
50% of qualification

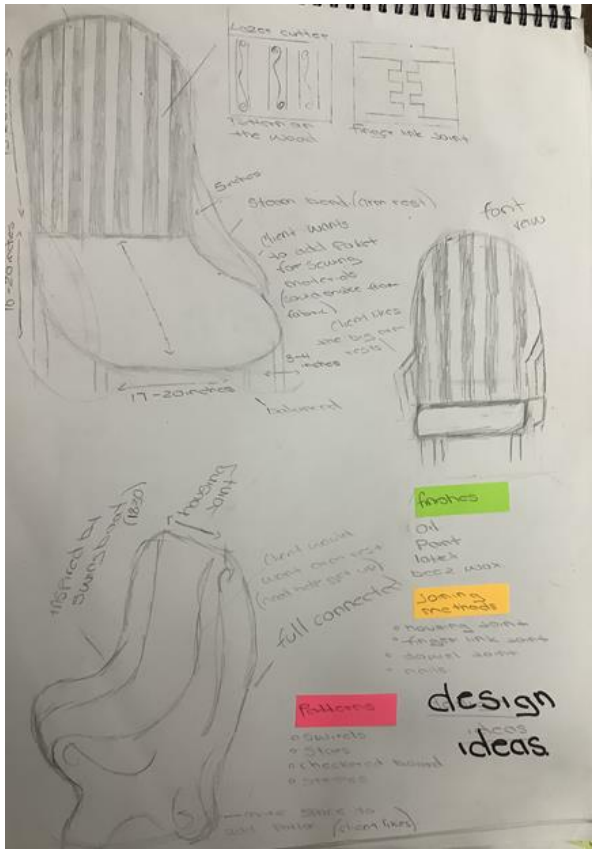
A sustained design and make task, based on a contextual challenge set by WJEC, assessing candidates' ability to:

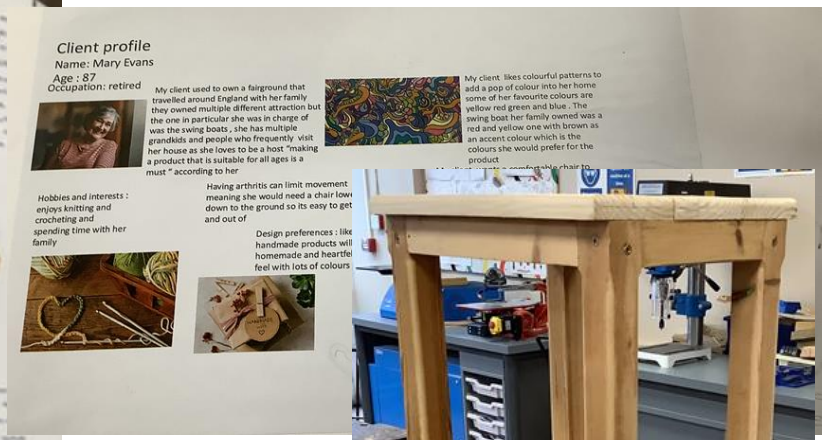
- identify, investigate and outline design possibilities
- design and make prototypes
- analyse and evaluate design decisions and wider issues in design and technology.

50% Controlled assessment: Students need to research, design and brief and specification, develop design ideas, make a product and evaluate.

Assessment Criteria		Marks	Assessment objective
(a)	Identifying and investigating design possibilities.	10	AO 1
(b)	Developing a design brief and specification.	10	
(c)	Generating and developing design ideas.	30	AO 2
(d)	Manufacturing a prototype.	30	
(e)	Analysing and evaluating design decisions and prototypes.	20	AO 3
	Total	100	

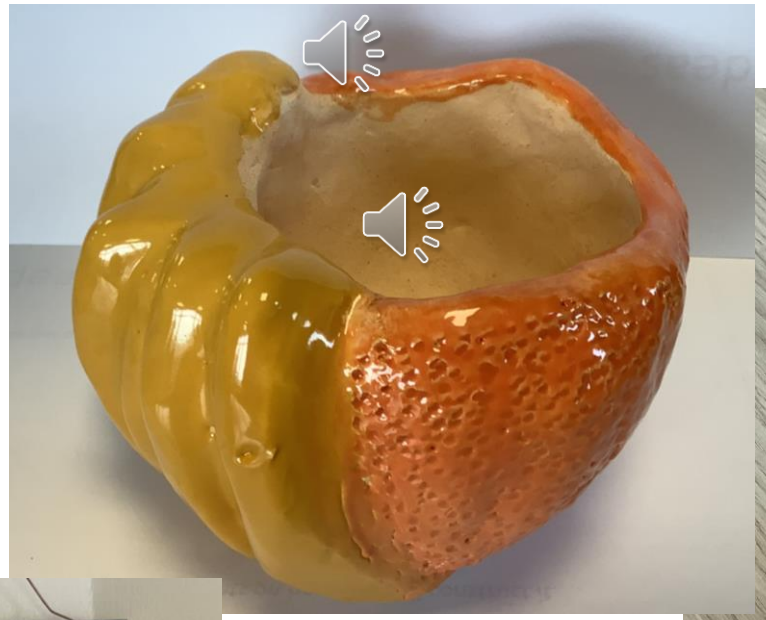






3D Art and Design

- If students enjoy making but are worried about the written exam and all the theory of Design Technology then they could consider doing 3D art instead.

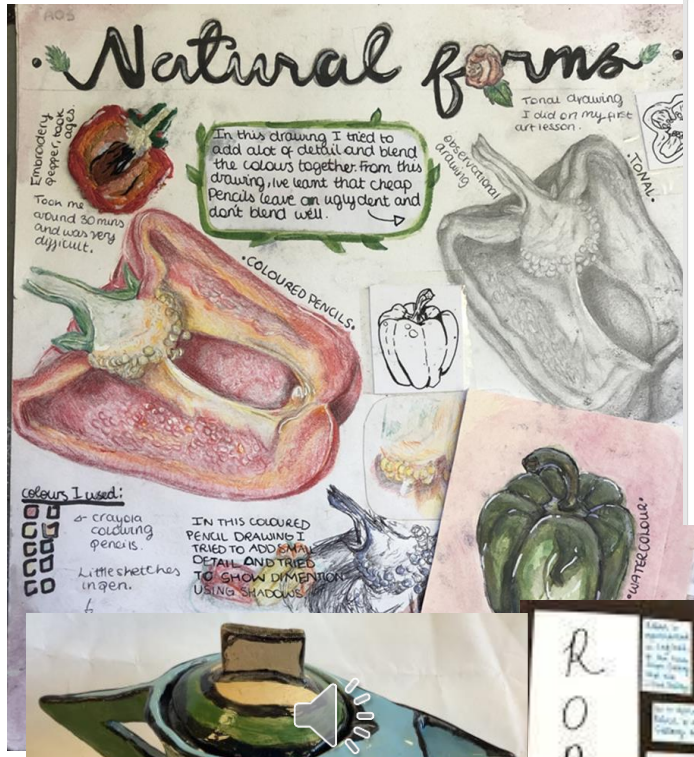


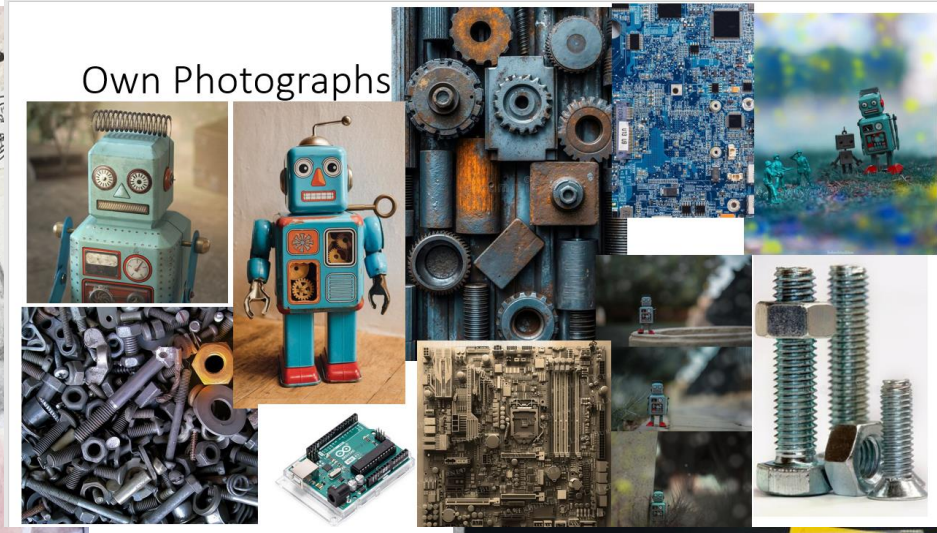
3D GCSE Art

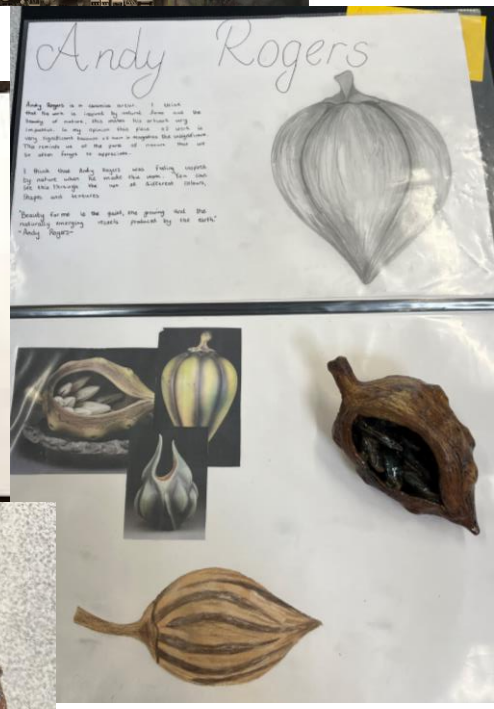
- 60% Coursework
- 40% Exam

For both their coursework and their exam they would need to:

- Make their own observations. These would be photographs and drawings
- Look at the work of artists and designers for inspiration.
- Develop ideas from this research, experimenting with different materials and techniques.
- And create a final piece/pieces.







3D GCSE Art