

Technology/3D Design

Mastery Curriculum Plan

5 Year Programme of Study

Year 7

Overview:

An introduction to the core knowledge of Design and Technology, developing key skills which work towards the core principles of The Art and Design: 3D Design framework.

Students will cover two practical tasks:

- **Wooden Car Project** – An introduction to working with timbers using a range of relevant tools and processes, alongside knowledge development of this material area.
- **LEGO Minifigure Project** – An introduction to the common design process, looking at concept design, which includes research, analysis of existing products, design specification, and project evaluation.

Term	Week 1/2	Week 3/4	Week 5/6	Week 7/8	Week 9/10	Week 11/12
Autumn	Wooden Car: - Project Introduction - Health & Safety - Practical	Wooden Car: - Orthographic Drawing Interpretation - Design Brief Analysis - Practical	Wooden Car: - Orthographic Drawing Interpretation - Design Brief Analysis - Practical	Wooden Car: - Materials Knowledge - Practical	Wooden Car: - Tool Record Sheet - Practical	Wooden Car: - Existing Product Analysis - Practical
	Wooden Car: - Project Introduction - Health & Safety - Practical	Wooden Car: - Orthographic Drawing Interpretation - Design Brief Analysis - Practical	Wooden Car: - Orthographic Drawing Interpretation - Design Brief Analysis - Practical	Wooden Car: - Materials Knowledge - Practical	Wooden Car: - Tool Record Sheet - Practical	Wooden Car: - Existing Product Analysis - Practical
Spring	Wooden Car: - Design Specification - Practical	Wooden Car: - Step by Step of Making - Practical	Wooden Car: - Evaluation - Key Assessment	LEGO Minifigure: - Design Brief Analysis - Research LEGO - Mood Board	LEGO Minifigure: - Existing Product Analysis - Design Specification	LEGO Minifigure: - Design Ideas - Final Design
	Wooden Car: - Design Specification - Practical	Wooden Car: - Step by Step of Making - Practical	Wooden Car: - Evaluation - Key Assessment	LEGO Minifigure: - Design Brief Analysis - Research LEGO - Mood Board	LEGO Minifigure: - Existing Product Analysis - Design Specification	LEGO Minifigure: - Design Ideas - Final Design
Summer	LEGO Minifigure: Practical [Minifigure]	LEGO Minifigure: - Practical [Minifigure] - Packaging Analysis	LEGO Minifigure: - Packaging Design - Practical [Packaging]	LEGO Minifigure: - Practical [Packaging] - Vacuum Forming	LEGO Minifigure: - Practical [Final Assembly] - D.I.R.T	LEGO Minifigure: - Evaluation - Key Assessment
	LEGO Minifigure: Practical [Minifigure]	LEGO Minifigure: - Practical [Minifigure] - Packaging Analysis	LEGO Minifigure: - Packaging Design - Practical [Packaging]	LEGO Minifigure: - Practical [Packaging] - Vacuum Forming	LEGO Minifigure: - Practical [Final Assembly] - D.I.R.T	LEGO Minifigure: - Evaluation - Key Assessment

Year 8

Overview:

An introduction to the core knowledge of Design and Technology, developing key skills which work towards the core principles of The Art and Design: 3D Design framework.

Students will cover two practical tasks:

- **Keyring Project**– An introduction to working with metals and plastics using a range of relevant tools and processes, alongside knowledge development of this material area and material properties.
- **LEGO Minifigure Project** – An introduction to the common design process, looking at concept design, which includes research, analysis of existing products, design specification, and project evaluation..

Term	Week 1/2	Week 3/4	Week 5/6	Week 7/8	Week 9/10	Week 11/12
Autumn	Keyring Project: - Project Introduction - Engineering Drawing Interpretation - Practical [Aluminium]	Keyring Project: - Material Properties - Practical [Aluminium]	Keyring Project: - Material Knowledge - Metal - Practical [Aluminium]	Keyring Project: - Tool Record Sheet - Practical [Aluminium]	Keyring Project: - Risk Assessment - Practical [Aluminium]	Keyring Project: - Step by Step of Making - Practical [Aluminium]
	Keyring Project: - Project Introduction - Engineering Drawing Interpretation - Practical [Aluminium]	Keyring Project: - Material Properties - Practical [Aluminium]	Keyring Project: - Material Knowledge - Metal - Practical [Aluminium]	Keyring Project: - Tool Record Sheet - Practical [Aluminium]	Keyring Project: - Risk Assessment - Practical [Aluminium]	Keyring Project: - Step by Step of Making - Practical [Aluminium]
Spring	Keyring Project: - Materials Knowledge - Plastic - Practical [Plastic]	Keyring Project: - Step by Step of Making - Practical [Plastic]	Keyring Project: - Evaluation - Key Assessment	LEGO Minifigure: - Design Brief Analysis - Research LEGO - Mood Board	LEGO Minifigure: - Existing Product Analysis - Design Specification	LEGO Minifigure: - Design Ideas - Final Design
	Keyring Project: - Materials Knowledge - Plastic - Practical [Plastic]	Keyring Project: - Step by Step of Making - Practical [Plastic]	Keyring Project: - Evaluation - Key Assessment	LEGO Minifigure: - Design Brief Analysis - Research LEGO - Mood Board	LEGO Minifigure: - Existing Product Analysis - Design Specification	LEGO Minifigure: - Design Ideas - Final Design
Summer	LEGO Minifigure: Practical [Minifigure]	LEGO Minifigure: - Practical [Minifigure] - Packaging Analysis	LEGO Minifigure: - Packaging Design - Practical [Packaging]	LEGO Minifigure: - Practical [Packaging] - Vacuum Forming	LEGO Minifigure: - Practical [Final Assembly] - D.I.R.T	LEGO Minifigure: - Evaluation - Key Assessment
	LEGO Minifigure: Practical [Minifigure]	LEGO Minifigure: - Practical [Minifigure] - Packaging Analysis	LEGO Minifigure: - Packaging Design - Practical [Packaging]	LEGO Minifigure: - Practical [Packaging] - Vacuum Forming	LEGO Minifigure: - Practical [Final Assembly] - D.I.R.T	LEGO Minifigure: - Evaluation - Key Assessment

Year 9

Overview:

An introduction to the expectations of GCSE 3D Design, developing key skills which work towards the core principles of The Art and Design: 3D Design framework. Students will cover a design project involving a focused practical tasks drawing on knowledge from year 7 and year 8:

- **Wooden Box Project [Practical]** – Students complete a focused practical task that revisits practical skills developed in year 7 and year 8 and the selection and use of an appropriate range of relevant tools and processes.
- **Wooden Box project [Design]** – Students produce a design folder centered around a given topic/theme: 20th Century Design Movements. They use their knowledge of the design process to research and investigate the theme when generating design ideas for the lid of their boxes. The design folder follows a simplified structure of those produced at GCSE level.

Term	Week 1/2	Week 3/4	Week 5/6	Week 7/8	Week 9/10	Week 11/12
Autumn	Wooden Box [Practical]: - Project Introduction - Design Brief Analysis - Practical	Wooden Box [Practical]: - Orthographic Drawing Interpretation - Practical	Wooden Box [Practical]: - Wood Joint Construction - Practical	Wooden Box [Practical]: - Isometric Drawing - Practical	Wooden Box [Practical]: - Material Knowledge - Timber - Practical	Wooden Box [Practical]: - Risk Assessment - Practical
	Wooden Box [Practical]: - Project Introduction - Design Brief Analysis - Practical	Wooden Box [Practical]: - Orthographic Drawing Interpretation - Practical	Wooden Box [Practical]: - Wood Joint Construction - Practical	Wooden Box [Practical]: - Isometric Drawing - Practical	Wooden Box [Practical]: - Material Knowledge - Timber - Practical	Wooden Box [Practical]: - Risk Assessment - Practical
Spring	Wooden Box [Practical]: - Tool Record Sheet - Practical	Wooden Box [Practical]: - Step by Step of Making - Practical	Wooden Box [Practical]: - Practical - Evaluation	Wooden Box [Design]: - Project Introduction 20th Century Design - Mind Map	Wooden Box [Design]: - Mind Map - Investigative Drawing	Wooden Box [Design]: - Artist/Designer Research - Existing Product Analysis
	Wooden Box [Practical]: - Tool Record Sheet - Practical	Wooden Box [Practical]: - Step by Step of Making - Practical	Wooden Box [Practical]: - Practical - Evaluation	Wooden Box [Design]: - Project Introduction 20th Century Design - Mind Map	Wooden Box [Design]: - Mind Map - Investigative Drawing	Wooden Box [Design]: - Artist/Designer Research - Existing Product Analysis
Summer	Wooden Box [Design]: - Design Specification - Mood Board	Wooden Box [Design]: - Design Ideas - Final Design	Wooden Box [Design]: - Planning - Practical	Wooden Box [Design]: - Planning - Practical	Wooden Box [Design]: - Planning - Practical	LEGO Minifigure: - Evaluation - Key Assessment
	Wooden Box [Design]: - Design Specification - Mood Board	Wooden Box [Design]: - Design Ideas - Final Design	Wooden Box [Design]: - Planning - Practical	Wooden Box [Design]: - Planning - Practical	Wooden Box [Design]: - Planning - Practical	LEGO Minifigure: - Final Assembly - Evaluation

Year 10

GCSE Art & Design: 3D Design. Component 01: Individual Portfolio. Independent coursework project involving researching, designing and developing either a product or artefact based on one of two themes: Nature and Natural Forms or Structure. Students will start the course with tasks which will help develop their skills and knowledge, allowing them to work more independently.

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Autumn 1	DEVELOP			RECORD	DEVELOP	
	Introduction to coursework and choice of themes. Mind map of theme with images to support	Mood board of area of interest within chosen theme i.e. aspect of Nature and Natural Forms	Artist research 1 Student to choose from 2 options	Observational drawing 1 – relevant to theme choice and artist	Development of techniques 1 – set technique based on artist pupil is looking at.	
Autumn 2	DEVELOP	RECORD	DEVELOP			RECORD
	Artist research 2 – Student to choose second artist from list given	Observational drawing 2 – second drawing relevant to theme choice and artist	Development of techniques 2 – set technique based on artist student is studying.			Artist research 3 – Free choice of artist - must still be relevant to theme. Some weaker student may focus on doing two artists
Spring 1	DEVELOP					
	Development of techniques 3 – free choice of techniques		Design ideas based on artists – pencil sketches, annotated with reference to artists' influence		Modelling of ideas – use of card, wire and Styrofoam Students to model several of their ideas at this point	
Spring 2	REFINE/RECORD					
	Refinement of ideas, possible use of CAD packages such as sketch up, sketch up and 2d design Manipulating designs with different proportions, colour schemes, materials. Demonstrating different drawing skills such as isometric and perspective			Refinement of ideas through modelling Further use of card, Styrofoam, wire etc. Students will focus modelling one idea, changing materials, techniques and proportions		
Summer 1	REFINE			PRESENT/RECORD		
	Continued from Spring 2 Refinement of ideas through modelling			Presentation of final design for making – working drawing, neat diagram of product. How the product will be made and timescale –students will document the processes they will be using to make product. Improvements to folder – ongoing so all work is scanned and presented in power point by summer		
Summer 2	PRESENT/PRACTICAL					
	Starting of final practical – Students will work independently to start producing the final piece for their coursework submission. Based on the work and techniques they have developed over the year. Improvements to folder – ongoing so all work is scanned and presented in power point by summer					

Year 11

GCSE Art & Design: 3D Design. Component 02: Externally Set Task. Independent coursework project involving researching, designing and developing either a product or artefact based on the selection of one theme from five that are set by the OCR exam board. The coursework follows similar structure to Component 01, but over a reduced time period.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Autumn 1	PRESENT/PRACTICAL					
	Starting of final practical – Students will work independently to start producing the final piece for their coursework submission. Based on the work and techniques they have developed over the year. Improvements to folder – ongoing so all work is scanned and presented in power point by Christmas					
Autumn 2	PRESENT/PRACTICAL					
	Starting of final practical – Students will work independently to start producing the final piece for their coursework submission. Based on the work and techniques they have developed over the year. Improvements to folder – ongoing so all work is scanned and presented in power point by Christmas.					
Spring 1	EXAM PREPARATION					
	Externally Set Tasks provided to students. One theme chosen to develop project around. Approximately 12 – 14 weeks depending on Easter holiday. Checklist and submission dates provided when dates are known.					
Spring 2	EXAM PREPARATION					
Summer 1	EXAM					
	Controlled Assessment – 10 hours (2 days in workshop for completion of final piece)			COURSE FINISHED		
Summer 2						
	COURSE FINISHED					