Y9 Design and Make - Such a Mess

Key learning:

Designing in 3D, creating a stencil template. Working with timber, intro to machines used for cutting and finishing.

To be able to create a personalised project within a defined context – this will include the identification of a location, task and user.
To further develop an understanding of the iterative design process and how different techniques can be exercised at different points of a design and make project.
Increased independence when making manufacturing decisions based on their own designs.
To further develop manufacturing skills within the workshop environment.
analysing and investigating specific user groups and their needs within the context of Organisation.
create early rough prototypes using materials such as corrugated cardboard.
Use a range of tools and machines
Develop a enhanced understanding in writing a design specification
Use specific presentation techniques to present design solutions.
Manufacturing skills and Health & Safety.

DA4, DA5, DA6, DA8, DB1, DB2, DB3, DB4, DB5, DB7, DB8, DB9. DB10, MA7-10, MB6, MB7, MB8, MB9, MB10, MB11 EA3, EB7, EA5

TK8, TK17, TK18, TK19, TK20,

Curriculum Sequencing Overview

Unit 1									
Week	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Big Ideas (key concepts)	H&S recap of working in the workshop Understanding of the project requirements and focus on modelling and refinement How to use research and the work of others to inform design decisions Technological advances and the life-cycle of a product	Producing annotated sketches in detail using 3D perspective and measurements	Modelling in 3D to inform further developments and produce accurate templates	Selecting from a range of materials based on their working properties and intended use	Measuring, marking, cutting and joining a range of specialist materials to produce a high-quality product Continuous evaluation and refinement as product develops			Apply a range of specialist finishing techniques, evaluating and making refinements as work progresses	Evaluate the success of your work against your design criteria Reflect and suggest refinements

Lesson Topics Sequence	Introduce the project to the class and talk through the focus on modelling and making 3D 'maquettes' Discuss safe working in the workshop and how to work ensuring themselves and others are working safely Talk about how products need to change and update based oon tech advances (Ie need a new docking station when changes phone size and add a smart watch etc)	Producing annotated sketches in detail using 3D perspective and measurements	A range of dems of materials to shape design ideas: Line bender Alluminium bending Slot joining in pine Students develop ideas after these dems have been understood and can be included if they choose to	Recap safe working in the workshop Recap dems given last lesson on specialist processes Pupils continue to develop their practical outcome by card modelling and moving onto their final outcome when they have the templates	Recap processes covered and safe working processes Pupils get on with independent project, as designed Teacher facilitate pupil led activities	Recap processes covered and safe working processes Pupils get on with independent project, as designed Teacher facilitate pupil led activities	Poss use of ICT room for evaluations Talk through evaluating against design criteria set at the beginning of the project Pupils complete evaluation in booklets
Key Resources	ICT Room would be beneficial Rulers Paper Booklets Drawing equipment	Rulers Paper Booklets Drawing equipment Card for modelling	Rulers Paper Booklets Drawing equipment Card for modelling Masking tape Scissors Pritt stick 10-12mm pine lengths Wood pieces Acrylic strips Line benders Aluminum bars Glue Screws Screw drivers Mallet for bending aluminum		As above Plus varnish, wood stain, wax, other finishing products	As above Plus varnish, wood stain, wax, other finishing products Rulers Paper Booklets Drawing equipment	ICT Room would be beneficial Rulers Paper Booklets Drawing equipment

Key learning and skills	How to work safely in the workshop Understanding of the project requirements and that modelling and refinement is an important part of the process How to use research and the work of others to inform design decisions Technological advances and the life-cycle of a product	How to produce annotated sketches in detail using 3D perspective and measurements	Modelling in 3D to inform further developments and produce accurate templates	Selecting from a range of materials based on their working properties and intended use	Measuring, marking, cutting and joining a range of specialist materials to produce a high-quality product Continuous evaluation and refinement as product develops	Apply a range of specialist finishing techniques, evaluating and making refinements as work progresses	How to evaluate the success of their work against their design criteria Reflect and suggest refinements