Y8 DT – Product Design

Subject	Product Design
Term	Rotation 1&2
Duration (approx.)	18 hours
Module	Flat Pack Clock

Skills and concepts to be developed and assessed (linking to identified AOs)

AO1 Generation of design briefs, Target market identification and description, Full in depth product analysis, Analysis of flat pack construction techniques, , Iterative design process, designing through modelling and prototyping, materials investigation.
AO2 Production techniques Computer aided design generation of final prototype pieces for product, Tolerances, exporting/importing designs to /from CAM using drawing exchange files (dxf). Laser cutter setting including power, speed, focal length to suit selected materials. post processing and finishing techniques including quality paint application. Assembling and fitting of pre manufactured clock mechanism.
AO3 Evaluation of existing products
Evaluation of Junzo Terada flat pack structures.
Evaluation of own and others designs
materials selection & justification

Factual knowledge to be taught and assessed (including subject specific vocabulary).

AO4 Knowledge of slot and tab methods of constructing flat pack structures.
Knowledge of materials and finishes
Understanding tolerances and the importance of accuracy .

Formative Assessment/key piece of work prior to end of unit:

In this module we will be assessing the following:
AO1: Designing skills
AO2: Making skills
AO3: Evaluating
AO4: Technical knowledge

Summative Assessment

Application of KS3 assessment matrix for AO1,2,3& 4 to assess
AO1 through quality and range of designing and design development through iterative product modelling
AO2 through quality of the final product including the accuracy of slot together structure
AO3 through quality of annotation sharing design thinking, Product analysis, quality of product modelling
AO4 through application of knowledge of flat pack construction techniques, materials, adhesives, finish and making in final product and annotation/ subsidiary sketches to show construction technique.

Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

In this unit pupils will be expected to build upon their designing skills in year 7 through the development of more 3D and subsidiary drawings to explain design thinking. Greater opportunities and freedoms for creativity and the development of designing through modelling to try out ideas. Manufacturing skills will require greater technical ability and accuracy.

Spelling-Punctuation-Grammar How will you promote high standards within this module?

There are good opportunities to promote good standards of literacy through the use of extended writing. Pupils will independently identify and describe a target market, formulate a design brief and articulate their opinions about existing products through a full product analysis where they will need to show an understanding of how each element of ACCESSFM are interrelated. Pupils will also complete a comprehension exercise by answering extended, evaluative questions about flat pack structures. The use of writing stems, exemplars, stimulus questions and breaking down the description of a target market into key questions to help structure extended writing are strategically used to support this.

Link forward: where next for the learning?

In year 9 pupils will be expected to further build upon their designing skills through a high challenge product requiring them to design a product around an electronic circuit. Pupils will have even more independence and opportunity to become more creative and innovative. Pupils will not only design but also develop their product through producing sets of sketches and quality annotation explain exactly how they will make their product. They will also produce a sequenced plan of making. Complex making skills will require a range of moulding techniques and combination of materials to create quality products.