Year 12 Design & Technology Product Design Learning Pathway

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Practical focus	Lego character	Lego character Mirror: Context exploration – learning to design!	Mirror design & make	NEA – Sections A + E Identifying & investigating design possibilities + Analysing & evaluating.	NEA – Sections B + C + E Producing a design brief & specification + Development of design proposals + Analysing & evaluating.	NEA – Sections C + D + E Development of design proposals + Development of design prototypes + Analysing & evaluating.
Supporting theoretical material - Technical Principles	3.1.2 Performance characteristics of materials (all materials as stated in the Spec). 3.1.4 Forming, redistribution & addition processes.	3.1.4.5 Adhesives, Jigs and fixtures. 3.1.5 Finishes (all materials as stated in the Spec).	3.1.9 H&S 3.1.14 Design communication 3.1.13 Enterprise & marketing in the development of products	3.1.8 The requirement of product design & development	3.1.1 Materials & their applications (with material testing)	3.1.3 Enhancement of materials 3.1.11 Design for manufacture, maintenance, repair & disposal
Supporting theoretical material - Designing & Making Principles		3.2.9 Design for manufacture & Project management (Efficiency, QA & QC)	3.2.4 Design process 3.2.6 Selecting appropriate tools, equipment & processes. 3.2.7 Accuracy in design & manufacture	3.2.1 Design methods & processes 3.2.2 Design theory 3.2.4 Design process	3.2.4 Design process 3.2.5 Critical analysis & evaluations	3.2.8 Responsible design
Work of others	Lego!	Lego!	Ikea, Habitat, Tom Dixon, Seymour Powell and Terence Conran	Investigation into existing products as dictated by their NEA. Design Movements and Designers as listed in the Specification.	An analysis of the work of others as a form of inspiration as dictated by their NEA	Investigation into existing products for the purpose of 3.1.11 + 3.2.8
Threshold **concepts** explored	Health & Safety Reading technical drawings Precision + QC, QA CAD CAM General practical skills Independence Problem solving	Health & Safety Reading technical drawings Precision + QC, QA CAD CAM General practical skills Independence Problem solving	Health & Safety Reading technical drawings Precision + QC, QA CAD CAM Creativity Innovation General practical skills Graphical communication skills Design skills Risk taking in design Independence Problem solving Analytical and evaluative skills	Analytical and evaluative skills Independence Problem solving	Analytical and evaluative skills Independence Problem solving Design skills Risk taking in design Graphical communication skills Creativity + Innovation Practical skills – modelling Health & Safety	Analytical and evaluative skills Independence Problem solving Design skills Graphical communication skills Creativity + Innovation Practical skills – modelling + test pieces + prototype Health & Safety

Building on	Practical skills taught at KS4. Theoretical knowledge and understanding from KS4 theory lessons.	Practical skills taught at KS4. Theoretical knowledge and understanding from KS4 theory lessons.	Practical & Design skills taught at KS4. Theoretical knowledge and understanding from KS4 theory lessons.	Investigative, analytical and evaluative skills. Theoretical knowledge and understanding from KS4 theory lessons.	Designing, analytical and evaluative skills. Theoretical knowledge and understanding from KS4 theory lessons.	Designing / development (including CAD & card modelling), analytical and evaluative skills. Theoretical knowledge and understanding from KS4 theory lessons.
Leading to	Enhanced practical skills and breadth of experience / range of processes. Increased depth of K&U of materials, their properties and processes.	Enhanced practical skills. Improved K&U of adhesives, Jigs & finishes.	Enhanced problem solving and design skills. Improved K&U of H&S, Design communication, Enterprise, equipment & industrial QC & QA techniques.	Improved analytical and evaluative skills. Improved K&U of design theory.	Improved analytical and evaluative skills. Improved K&U of materials & their properties / applications.	Improved analytical and evaluative skills. Improved K&U of materials & their properties / applications, responsible design.
How will you know how you are doing and how to improve?	End of practical task review & assessment leading to feedback. Past paper questions. End of unit assessment. Peer assessments. Progress tracked via an excel spreadsheet.	End of practical task review & assessment leading to feedback. Past paper questions. End of unit assessment. Peer assessments. Progress tracked via an excel spreadsheet.	Fortnightly review of progress with feedback linked to the NEA criterion. Past paper questions. End of unit assessment. Peer assessments. Progress tracked via an excel spreadsheet	Weekly submissions / deadlines with feedback via the NEA feedback sheets. Comparison against the NEA marking criteria and guides. Regular submission on past paper questions. Progress tracked via an excel spreadsheet.		
Experiences to look out for						Brunel University design exhibition or similar. One Designers or similar.
A links to useful resources (to be added 2023-24)	Working progress: Links to: Practical skills technical drawings. Theory teaching PP & worksheets. Exampro questions.	Working progress: Links to: Practical skills technical drawings. Theory teaching PP & worksheets. Exampro questions.	Working progress: Links to: Practical skills technical drawings. Context task. Theory teaching PP & worksheets. Exampro questions.	Working progress: Links to: NEA guide NEA marking criterial / feedback booklet. Theory teaching PP & worksheets. Exampro questions.	Working progress: Links to: NEA guide NEA marking criterial / feedback booklet. Theory teaching PP & worksheets. Exampro questions.	Working progress: Links to: NEA guide NEA marking criterial / feedback booklet. Theory teaching PP & worksheets. Exampro questions.

Year 13 Design & Technology Product Design Learning Pathway

	Term 1	Term 2	Term 3	Term 4	Term 5
NEA / revision	NEA – Sections D + E – Development of design prototypes + Analysing & evaluating.	NEA – Sections D + E – Development of design prototypes + Analysing & evaluating.	NEA – Sections D + E – Development of design prototypes + Analysing & evaluating. Revision – extensive use of past paper questions.	Revision – extensive use of past paper questions.	Final Examination preparations
Supporting theoretical material - Technical Principles	3.1.6 Modern industrial & commercial practice 3.1.7 Digital design & manufacture	3.1.10 Protecting designs & intellectual property. 3.1.12 Feasibility studies	Technical Principles topics taught in order of need – weakest topics first.		
Supporting theoretical material - Designing & Making Principles	3.2.10 National + international standards 3.2.3.4 Product life cycle	3.2.3 How technology & cultural changes can impact the work of designers	Designing & Making Principles topics taught in order of need – weakest topics first.		
Work of others	Analysis / evaluation of and inspiration through the work of others dictated by the student's NEA. 3.2.3.4 – An investigation into existing products.	Analysis / evaluation of and inspiration through the work of others dictated by the student's NEA. 3.2.3 – An investigation of product development and cultural changes.	Designers & Companies named in the AQA Specification		
Threshold **concepts** explored	H&S Practical skills Design skills Resilience CAD / CAM Creativity Innovation Independence	H&S Practical skills Design skills Resilience CAD / CAM Creativity Innovation Independence	Key words and their meaning Revision skills Examination techniques Subject specific vocabulary Time management		
Building on	Section C Graphical communication, Designing & practical skills from Year 12	Section C Graphical communication, Designing & practical skills from Year 12	Theoretical material taught to date		
Leading to	The realisation of test pieces and a final prototype.	The realisation of a final prototype and concluding testing and evaluations.	The completion of an extensive array of past paper questions and mini mock papers.		

How will you know how you are doing and how to improve?	Weekly submissions / deadlines with feedback via the NEA feedback sheets. Comparison against the NEA marking criteria and guides. Weekly submission on past paper questions. Progress tracked via an excel spreadsheet		Completion of homework assignments (past paper booklets) and mini mocks (timed papers). Reflection and analysis against marking schemes and target grades. Progress tracked via an excel spreadsheet		
Experiences to look out for	Year 13 must concentrate on their NEA at this time		Their focus must be on the forthcoming examination		
Links to useful resources (to be added 2023-24)	Working progress: Links to: NEA guide, feedback booklet & Marking criteria Theory teaching PP & worksheets. Exampro questions.	Working progress: Links to: NEA guide, feedback booklet & Marking criteria Theory teaching PP & worksheets. Exampro questions.	Working progress: Theory teaching PP & worksheets. Exampro questions.	Working progress: Theory teaching PP & worksheets. Exampro questions.	Working progress: Theory teaching PP & worksheets. Exampro questions.
ASPIRATIONS	Links with industry – experts attending lessons, offering workshops or acting as clients for students				