

# Year 10 Design Technology Long-Term Plan

## Temperance Term

W/C	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	HALF TERM	
Topic	<b>Introduction to GCSE DT</b>	<b>Computer aided Manufacture</b>	<b>NEA: Transition Project – Jewellery Box</b> <b>EXAM: Preparing for the June Exam</b>						
Core (AO1-3 two lessons per week) (AO4 one lesson per week)	<b>Explanation of GCSE DT and how to record notes</b> <ul style="list-style-type: none"> <li>Book-Smart</li> <li>Laying out the GCSE sketchbook: NEA and Exam</li> <li>Using your Y9 work to exemplify your GCSE sketchbook</li> </ul>	<b>Investigating the Dowel Joint: Dowel Jig</b> <ul style="list-style-type: none"> <li><b>Brief:</b> Making a dowel joint by hand and in quantity</li> <li>Investigation into the dowel joint: making, recording and self-assessing</li> <li><b>Designing and developing</b> a dowel Jig: card, drill jig and others</li> <li>Revisiting Techsoft 2d V3</li> <li>Using the LaserCutter to make the jig</li> <li>Students make a dowel joint and dowel jig to be used for the Jewellery Project</li> </ul>	<b>Foundation woodwork: Jewellery Box</b> <ul style="list-style-type: none"> <li>W3 Explore the <b>Header sheet: ACs</b> and encourage independence with the project: "Work at your pace but finish in 3 lessons"</li> <li>W3 <b>Brief</b>, mind-mapping and analysing the standard <b>Jewellery Box</b></li> <li>W3 <b>Research:</b> Analyse the basic jewellery box, materials available (frame and interior) and linked to the Header Sheet</li> <li>W3 <b>Design and Developing</b> the standard box: sizes, lid, interior and style</li> <li>W4 Making the jewellery box frame: marking out, cutting, sanding, joining and gluing</li> <li>W5 Record stages of production and learn how to use QA and QC throughout; self (QA) and peer (QC) assessment</li> <li>W5 Making the jewellery box frame: Adding the base to the box, sanding, adding a finish</li> <li>W5 Introduction to COSHH</li> <li>W6 Making the jewellery box lid: Making the lid, attaching (hinges, lift odd, pivo...) and decoration</li> <li>W6 Making the jewellery box interior: Personalising the interior of the box: felt lining, dividers, drawers...</li> <li>W7 Evaluating and costing the Jewellery box</li> <li>W7 Respond to Teacher Assessment for the Jewellery box</li> </ul>						
	<b>Introduction to the June Mock Exam</b> <ul style="list-style-type: none"> <li>Exam topic list for the June Exam</li> <li>Keywords for GCSE DT and the Y10 mock exam keyword list</li> <li>How to research keywords: definitions, website references and video links</li> </ul>	<b>AO4 Woods</b> <ul style="list-style-type: none"> <li>Keyword list: Wood tools</li> <li>Exam question: planning manufacture of a wood joint</li> </ul>	<b>AO4 Woods</b> <ul style="list-style-type: none"> <li>Keyword list: Wood types</li> <li>Exam question: selecting woods</li> </ul>	<b>AO4 Woods</b> <ul style="list-style-type: none"> <li>Keyword list: Wood shaping</li> <li>Exam question: how wood is shaped</li> </ul>	<b>AO4 Woods</b> <ul style="list-style-type: none"> <li>Keyword list: Wood joining</li> <li>Exam question: Joining wood</li> </ul>	<b>AO4 Woods</b> <ul style="list-style-type: none"> <li>Keyword list: Wood Finishes and treatments</li> <li>Exam question: Adding a finish</li> </ul>	<b>AO4 End of Topic Test: Woods</b> <ul style="list-style-type: none"> <li>Exam question: Covering wood keywords</li> </ul>		
Challenge	Drill jig rather than a marking tool Homework W1 Complete the Wood keywords research: definition, video example and exam		Style of lid and fitting out the interior of the jewellery box <b>Additional Homework – Students who have not completed the summer task add this to their schedule until half term</b> Homework: W4 Develop the lid of the box and the interior Homework W3, 5-6 Complete the Wood keywords research: definition, video example and exam question						
Assessment	Verbal Feedback (VF), Self-Assessment (SA), Peer-Assessment (PA) and end of project assessment <b>Teacher Assessment (TA) and online quizzes</b>		SA and VF <b>Teacher Assessment (TA) and online quizzes</b>						

W/C	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	CHRISTMAS
Topic	<b>Drawing Techniques</b> <b>EXAM: Preparing for the June Exam</b>		<b>Investigating Wood Joints</b> <b>EXAM: Preparing for the June Exam</b>		<b>Picture Frame Project – Developing a prototype</b> <b>EXAM: Preparing for the June Exam</b>		
Core (AO1-3 two lessons per week) (AO4 one lesson per week)	<b>Developing strong drawing communication techniques</b> <ul style="list-style-type: none"> <li>W8 3d drawing techniques: isometric</li> <li>W8 Enhancing 3d drawings: hatching, tone, shade, texture</li> <li>W8 Orthographic projection: 3<sup>rd</sup> angle projection, dimensioning of the wood joints</li> <li>W9 3d drawing techniques: 1-point perspective</li> <li>W9 3d drawing techniques: 2-point perspective</li> </ul>		<b>Investigations for NEA coursework: wood joints</b> <ul style="list-style-type: none"> <li>W10 Make the corner halving joint</li> <li>W10 Recording how to making the corner halving joint</li> <li>W11 Make the cross-halving joint</li> <li>W11 Recording how to making the cross-halving joint</li> <li>W11 Make the dovetail halving joint and screwed butt joint</li> </ul>		<b>Introduction to the GCSE Design Process: Picture Frame</b> <ul style="list-style-type: none"> <li>W12 Analysing the design brief: interpreting a GCSE Design Challenge</li> <li>W12 Mind-mapping ideas: ACCESS FM and using the 6Rs</li> <li>W12 Identifying a client and customer group: interviews and questionnaires to profile clients and customer groups</li> <li>W13 Writing a specification: Critical analysis of the research</li> <li>W13 Designing for a client inspired by the research: applying drawing skills learned previously, annotating designs and self-assessment (Rainbow Leaper)</li> </ul>		
	<b>AO4 Metals</b> <ul style="list-style-type: none"> <li>Keyword list: Metal tools</li> <li>Exam question: Marking out shapes</li> </ul>	<b>AO4 Metals</b> <ul style="list-style-type: none"> <li>Keyword list: Metal types</li> <li>Exam question: selecting metals</li> </ul>	<b>AO4 Metals</b> <ul style="list-style-type: none"> <li>Keyword list: Metal shaping</li> <li>Exam question: how metal is shaped</li> </ul>	<b>AO4 Metals</b> <ul style="list-style-type: none"> <li>Keyword list: Metal joining</li> <li>Exam question: Joining metal</li> </ul>	<b>AO4 Metals</b> <ul style="list-style-type: none"> <li>Keyword list: Metal Finishes and enhancement</li> <li>Exam question: Adding a finish and enhancing metal</li> </ul>	<b>AO4 End of Topic Test: Metals</b> <ul style="list-style-type: none"> <li>Exam question: Covering metal keywords</li> </ul>	
Challenge	Using CAD methods to create drawings Homework: Jewellery box drawn as isometric, orthographic, 1 and 2-point perspective		Dovetail joint Homework: W10-11 Gather video clips and websites for the metal working keywords		Own wood joint design, frame which can both be wall mounted and free standing, <i>finish</i> applied to the wood Homework: W12 Interview a client for the jewellery box		
Assessment	VF and SA <b>Online quizzes</b>		TA and SA <b>Online quizzes and walking-talking exams</b>				

# Year 10 Design Technology Long-Term Plan

## Justice Term

W/C	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	HALF TERM
Topic	<b>Picture Frame Project – Developing a prototype</b> <b>EXAM: Preparing for the June Exam</b>						
Core	<b>Applying woodworking skills to make a high-quality picture frame</b> <ul style="list-style-type: none"> <li>W14 Designing in the style of two designers from the 27 Essential Designers: inspired by research gathered from the Summer Task</li> <li>W15 Introduction to prototyping of ideas: modelling ideas and using modelling materials, compliant and resistant, to make a model of the picture frame</li> <li>W15 Applying the woodworking knowledge from the wood joint investigations to make an accurate and life-like model</li> <li>W16 Testing, reviewing and improving a prototype with a client</li> <li>W16 Revisit Techsoft 2d Design: essential drawing tools</li> <li>W16 Working drawing of the Picture frame: applied 3rd angle projection, dimensioning a drawing and drawing to a scale</li> <li>W16 Planning of making the picture frame</li> <li>W16 QA and QC processes: templates, patterns, go-not-go gauge, CAD and CAM</li> <li>W17-19 Independently making a picture frame</li> <li>W17-19 Use of woodwork machine tools: drills, routers, palm and belt sanders</li> <li>W17-19 Application of relevant wood finishes</li> <li>W17-19 Applying and using Techsoft 2d Design and the laser cutter: making the acrylic window, engraving (wood or polymer)</li> <li>W19 Testing and evaluating the picture frame: self-testing and testing by the client</li> </ul>						
	<b>AO4 Polymers</b> <ul style="list-style-type: none"> <li>Keyword list: Polymer tools</li> <li>Exam question: Marking out shapes</li> </ul>	<b>AO4 Polymers</b> <ul style="list-style-type: none"> <li>Keyword list: Polymer types</li> <li>Exam question: selecting Polymer</li> </ul>	<b>AO4 Polymers</b> <ul style="list-style-type: none"> <li>Keyword list: Polymer shaping</li> <li>Exam question: how Polymer is shaped</li> </ul>	<b>AO4 Polymers</b> <ul style="list-style-type: none"> <li>Keyword list: Polymer joining</li> <li>Exam question: Joining Polymer</li> </ul>	<b>AO4 Polymers</b> <ul style="list-style-type: none"> <li>Keyword list: Polymer Finishes and enhancement</li> <li>Exam question: Adding a finish and enhancing Polymer</li> </ul>	<b>AO4 End of Topic Test: Polymers</b> <ul style="list-style-type: none"> <li>Exam question: Covering Polymer keywords</li> </ul>	
Challenge	Use of the laser cutter to enhance the picture frame and to achieve accuracy <b>Homework: W14-18 Gather video clips and websites for the polymer keywords</b> <b>Homework: W19 Make corrections to end of topic test</b>						
Assessment	<b>SA and Teacher Summative Assessment of the picture frame project against NEA criteria</b> <b>Online quizzes and walking-talking exams</b>						

W/C	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	EASTER
Topic	<b>Sundial Project</b> <b>EXAM: Preparing for the June Exam</b>			<b>Toolbelt Project</b> <b>EXAM: Preparing for the June Exam</b>			
Core	<b>Focussed Practical Task (FPT) to make a sundial using ferrous and non-ferrous metals</b> <ul style="list-style-type: none"> <li>W20 Analysing the Sundial Brief</li> <li>W20 Revisiting metalworking techniques: making an aluminium dog-tag</li> <li>W20 Metalwork fabrication techniques: marking with accuracy, drilling, cutting, finishing and forming</li> <li>W20 Metalworking hand tools: marking tools, hand cutting and forming, finishing tools</li> <li>W20 Metalworking machine tools: notcher, guillotine and drill</li> <li>W20-22 Making a sundial: following a drawing</li> <li>W20 Advanced metalwork marking process to draw out the sundial</li> <li>W21 Metalwork enhancement: annealing copper</li> <li>W21 Introduction to metalwork fixtures, permanent and non-permanent: rivets, machine screws, cutting threads</li> <li>W21 Metalworking machine tools: pop-riveting</li> </ul>			<b>Focussed Practical Task (FPT) to make a toolbelt predominantly using fabrics</b> <ul style="list-style-type: none"> <li>W23 Analysing the design brief and the standard toolbelt pattern</li> <li>W23 Textile fabrication techniques by learning how the toolbelt is made: marking with accuracy, cutting, sewing (machine and hand), finishing</li> <li>W23 Investigation standard textile components: buttons, zips, rivets and buckles</li> <li>W23 Marking and cutting out fabric: patterns, shears and knocking tools</li> <li>W24 Revisiting and practising hand sewing techniques: anchor stitch, running and back stitch, whipping and ladder stitch</li> <li>W24 Revisiting the sewing machine: parts of the machine, winding a bobbin, threading a sewing machine, drivers test and fault finding/fixing</li> <li>W24 Intermediate sewing techniques: button hole attachment, sewing a zip, leather punches, riveting tool</li> <li>W23 -25 Making a toolbelt</li> </ul>			
	<b>AO4 Textiles</b> <ul style="list-style-type: none"> <li>Keyword list: Textiles tools</li> <li>Exam question: Marking out shapes</li> </ul>	<b>AO4 Textiles</b> <ul style="list-style-type: none"> <li>Keyword list: Textiles types</li> <li>Exam question: selecting Textiles</li> </ul>	<b>AO4 Textiles</b> <ul style="list-style-type: none"> <li>Keyword list: Textiles shaping</li> <li>Exam question: how Textiles are shaped</li> </ul>	<b>AO4 Textiles</b> <ul style="list-style-type: none"> <li>Keyword list: Textiles joining</li> <li>Exam question: Joining Textiles</li> </ul>	<b>AO4 Textiles</b> <ul style="list-style-type: none"> <li>Keyword list: Textiles Finishes and enhancement</li> <li>Exam question: Adding a finish and enhancing Textiles</li> </ul>	<b>AO4 End of Topic Test: Textiles</b> <ul style="list-style-type: none"> <li>Exam question: Covering Textiles keywords</li> </ul>	
Challenge	<b>Build a pedestal for the sundial through applying prior woodwork knowledge</b> <b>Homework: W20-22 Gather video clips and websites for the textile keywords</b>			<b>Combining belt with metals, bespoke toolbelt design for a specific trade</b> <b>Homework: W23-24 Gather video clips and websites for the textile keywords</b> <b>Homework: W25 Make corrections to end of topic test</b>			
Assessment	<b>Self-assessment using the Header Sheet ACs</b> <b>Teacher assessment using the Header Sheet ACs</b> <b>Online quizzes and walking-talking exams</b>			<b>Self-assessment using the Header Sheet ACs</b> <b>Teacher assessment using the Header Sheet ACs</b> <b>Online quizzes and walking-talking exams</b>			

# Year 10 Design Technology Long-Term Plan

## Courage Term

W/C	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	HALF TERM
Topic	<b>Industrial Manufacturing Techniques</b> <b>EXAM: Preparing for the June Exam</b>						
Core	<b>FPT: Bending wood</b> <ul style="list-style-type: none"> <li>Explore Flexibly, veneers, kerfing and steam bending</li> <li>Introduction to the Bag-Press</li> <li>Forming a wooden spoon</li> </ul>	<b>FPT: Melting Metal</b> <ul style="list-style-type: none"> <li>Explore Pewter, lead and semi-precious clay</li> <li>Revisit pewter casting process</li> <li>Introduction to the kiln</li> <li>Forming metal into a trinket: keyring, jewellery, statue...</li> </ul>	<b>FPT: Rapid Prototyping</b> <ul style="list-style-type: none"> <li>Explore 3d Printer</li> <li>Introduction to Design Spark Mechanical</li> <li>Creating a CAD drawing of board game piece</li> <li>Operating the 3d printer to make the game piece</li> </ul>	<b>FPT: Personalised packaging</b> <ul style="list-style-type: none"> <li>Explore card nets</li> <li>Introduction to the card press cutter</li> <li>Printing process: inkjet, screen printing, block press and lithography</li> <li>Make a personalised box</li> </ul>	<b>FPT: Production Lines</b> <ul style="list-style-type: none"> <li>Revisit QA and QC</li> <li>Explore QA and QC tools</li> <li>Mock production line: personalise toilet roll</li> <li>Reviewing and improving production lines</li> <li>Explore jogs</li> <li>Making a batch of 4 candle sticks</li> </ul>		
	<b>AO4 Papers and Cards</b> <ul style="list-style-type: none"> <li>Keyword list: Paper/card tools</li> <li>Exam question: Marking out shapes</li> </ul>	<b>AO4 Papers and Cards</b> <ul style="list-style-type: none"> <li>Keyword list: Paper/card types</li> <li>Exam question: selecting Paper/card</li> </ul>	<b>AO4 Papers and Cards</b> <ul style="list-style-type: none"> <li>Keyword list: Paper/card shaping</li> <li>Exam question: how Paper/card are shaped</li> </ul>	<b>AO4 Papers and Cards</b> <ul style="list-style-type: none"> <li>Keyword list: Paper/card joining</li> <li>Exam question: Joining Paper/card</li> </ul>	<b>AO4 Papers and Cards</b> <ul style="list-style-type: none"> <li>Keyword list: Paper/card Finishes and enhancement</li> <li>Exam question: Adding a finish and enhancing Paper/card</li> </ul>	<b>AO4 Papers and Cards</b> <ul style="list-style-type: none"> <li>Exam question: Covering Textiles keywords</li> </ul>	
Challenge	<b>Managing the production line, applying the knowledge to make formed wood furniture concepts</b> Homework: W26-30 Gather video clips and websites for the textile keywords Homework: W31 Make corrections to end of topic test						
Assessment	<b>Self-assessment using the Header Sheet ACs</b> <b>Teacher assessment using the Header Sheet ACs</b> <b>Online quizzes and walking-talking exams</b>						

W/C	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	SUMMER
Topic	<b>Mock exam preparation</b>	<b>End of year exam</b>	<b>Beginning the NEA coursework</b>		<b>Work Experience</b>	<b>Finishing off Y10</b>	
Core	<b>Preparing for the exam</b> <ul style="list-style-type: none"> <li>Collating revision material for the Y10 mock and independent revision</li> </ul>	Testing on all material groups	<b>Launching the new AQA NEA Design Challenges</b> <ul style="list-style-type: none"> <li>W34 Exploring the three Design Challenges</li> <li>W34 choosing a Design Challenge and identifying a problem to be solved</li> <li>W34 Writing a design brief for Y11 NEA</li> <li>1:1 meeting to finalise Design Brief</li> <li>W35 Similar Product Research</li> </ul>			<b>Mock Exam</b> <ul style="list-style-type: none"> <li>Feedback</li> <li>Intervention</li> <li><b>NEA</b></li> <li>Summer task</li> <li>Complete Page 3 "Similar Product" research</li> </ul>	
Challenge	<b>Precision in answers: don't drop marks</b> Homework: Revising for the exam	Teacher assessment using the exam mark scheme	<b>Complexity of product chosen for the Y11 NEA</b> Homework: W34-35 Complete Page 5 Design Brief			<b>Teacher assessment using the exam mark scheme</b> Homework: W37 Make corrections to end of topic test	
Assessment	<b>Self-assessment using the Header Sheet ACs</b> <b>Teacher assessment using the Header Sheet ACs</b> <b>Online quizzes and walking-talking exams</b>	TA	<b>Self-assessment using the Header Sheet ACs</b> <b>Teacher assessment using the Header Sheet ACs</b>			TA	