Design Technology – Year 10
SUBJECT OVERVIEW MAP

The Year 10 curriculum develops pupils' technical knowledge, specialist material understanding and practical capability through a carefully sequenced programme of study. Theory and practical learning run alongside one another so pupils continually connect technical understanding with designing and manufacturing. Projects are deliberately sequenced to build confidence in workshop practice, CAD/CAM, quality control and evaluation before pupils begin the AQA Non-Exam Assessment.			
	Substantive Knowledge	**Disciplinary Knowledge**	**Assessment**
Half-term 1	**Theory** **3.1.6.1 Material Categories** • Papers & boards • Natural & manufactured timbers • Ferrous & non-ferrous metals • Thermoplastics & thermosetting polymers • Natural & synthetic textiles 3.1.6.2 Material Properties • Physical, working & aesthetic properties • Material selection from properties **Practical & Manufacturing Knowledge (Ping Pong Paddle)** • Safe workshop practice • Measuring & marking out • Cutting, drilling & shaping timber • Surface finishing • Quality control	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:**	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback ❑ End of Unit Knowledge Assessment **Practical** ❑ Design Review ❑ Quality Control Checks ❑ Live Practical Feedback ❑ Summative Practical Assessment

		✓ Classify and compare materials using technical vocabulary. ✓ Justify material selection for a given application.	
Half-term 2	**Theory** **3.2.2 Forces & Stresses** • Tension, compression, torsion, bending & shear • Improving functionality 3.2.3 Ecological & Social Footprint • Environmental impact & the 6Rs 3.2.7 Scales of Production • One-off, batch & mass production **Practical & Manufacturing Knowledge (Phone Stand)** • Working from a specification • Accurate manufacture • Assembly • Testing	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:**	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback ❑ End of Unit Knowledge Assessment **Practical** ❑ Design Review ❑ Quality Control Checks ❑ Live Practical Feedback ❑ Summative Practical Assessment

		✓ Analyse how forces, production methods and sustainability influence design decisions. ✓ Select appropriate manufacturing methods.	
Half-term 3	**Theory** **3.3.1–3.3.6 Designing Principles** • Research methods • Design briefs & specifications • Designers & companies • Design strategies • Communication & prototypes **Practical & Manufacturing Knowledge (Lamp)** • CAD/CAM • Timber joints • 3D printed components • Finishing • Testing	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Investigate user needs using primary and secondary research.	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback ❑ End of Unit Knowledge Assessment **Practical** ❑ Design Review ❑ Quality Control Checks ❑ Live Practical Feedback ❑ Summative Practical Assessment

		✓ Communicate and justify design ideas.	
Half-term 4	**Theory** **3.2 Specialist Timber** • Sources, origins & properties • Conversion & seasoning • Manufactured boards • Commercial stock forms • Commercial manufacture • Surface treatments & finishes **Practical & Manufacturing Knowledge (Lamp)** • Precision manufacture • Joint construction • Refinement • Commercial finishing	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Select appropriate timber materials and processes.	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback ❑ End of Unit Knowledge Assessment **Practical** ❑ Design Review ❑ Quality Control Checks ❑ Live Practical Feedback Summative Practical Assessment

		✓ Apply specialist timber knowledge to manufacture.	
Half-term 5	**Theory** **3.1.1 New & Emerging Technologies** • Modern, smart & composite materials • Technical textiles • Electronic systems • Planned obsolescence • Technology & sustainability **Practical & Manufacturing Knowledge (Mock NEA)** • Research • Design brief & specification • Iterative prototyping • Design communication	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Apply iterative design strategies. ✓ Develop evidence-based design decisions.	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback End of Unit Knowledge Assessment **Practical** ❑ Research Review ❑ Design Review ❑ Prototype Review ❑ Mock NEA Portfolio

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Half-term 6	**Theory** **3.1.2–3.1.5** • Energy generation & storage • Modern, smart & composite materials • Systems approach • Electronic systems • Mechanical devices **Practical & Manufacturing Knowledge (NEA Launch)** • Context analysis • Research planning • Specification writing • Project planning	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Analyse contextual challenges. ✓ Plan an iterative NEA project.	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback End of Unit Knowledge Assessment **Practical** ❑ Context Analysis ❑ Research Review ❑ Design Brief Review ❑ NEA Portfolio Checkpoint

Design Technology – Year 11
SUBJECT OVERVIEW MAP

Year 11 consolidates and applies the technical knowledge secured in Year 10. Weekly theory lessons revisit the full AQA specification through retrieval practice, exam questions and feedback, while double lessons focus on completing the Non-Exam Assessment. This ensures pupils continually apply technical knowledge to authentic design work before transitioning to focused examination preparation.			
	Substantive Knowledge	**Disciplinary Knowledge**	**Assessment**
Half-term 1	**GCSE Theory Retrieval & Revision** **Revision: Materials & Properties (3.1.6)** • Retrieval practice • Material selection • Exam-style questions **Non-Exam Assessment** **NEA Section C – Designing** • Design generation • Iterative development • Client-focused decision making • Design communication	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Develop and justify a range of design ideas.	**Theory** ❑ Retrieval Quiz ❑ Exam Question(s) ❑ Whole-Class Feedback **NEA** ❑ Design Review ❑ Portfolio Checkpoint ❑ Teacher Feedback

		✓ Use research to inform design decisions.	
Half-term 2	**GCSE Theory Retrieval & Revision** **Revision: Common Specialist Technical Principles (3.2)** • Forces & stresses • Sustainability • Scales of production • Timed exam questions **Non-Exam Assessment** **NEA Sections D–E** • Development modelling • Manufacturing planning • Begin manufacture	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ •Develop and refine solutions through modelling.	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback ❑ End of Unit Knowledge Assessment **Practical** ❑ Development Review ❑ Manufacturing Checkpoint ❑ Teacher Feedback

		✓ Plan and justify manufacturing processes.	
Half-term 3	**GCSE Theory Retrieval & Revision** **Revision: Designing Principles, Specialist Timber, New Technologies** • Retrieval • Extended responses **Non-Exam Assessment** **NEA Sections E–F** • Complete manufacture • Testing • Evaluation	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Apply specialist knowledge during manufacture.	**Theory** ❑ Retrieval Quiz ❑ Whole-Class Feedback ❑ End of Unit Knowledge Assessment **Practical** ❑ Manufacturing Review ❑ Evaluation Review ❑ Teacher Feedback

		✓ Evaluate against specification using evidence.	
Half-term 4	**GCSE Theory Retrieval & Revision** **Exam Preparation** • Walking-talking papers • Targeted retrieval • Command words • Timed questions **Non-Exam Assessment** **Final NEA improvements** • Respond to whole-class feedback • Final refinements • Quality assurance • NEA submission	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Improve work in response to feedback. ✓ Present evidence to AQA standard.	**Theory** ❑ Walking-Talking Mock ❑ Exam Questions ❑ Whole-Class Feedback **Practical** ❑ Final Portfolio Review ❑ Submission Check

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Half-term 5	**GCSE Theory Retrieval & Revision** **Full specification revision** • Interleaved retrieval • Practice papers • Walking-talking exams • Extended responses **Non-Exam Assessment** **Application of technical knowledge** • Exam technique • Targeted intervention • Personalised revision	**Core:** ✓ Apply technical knowledge to inform design and manufacturing decisions. ✓ Generate, develop and communicate ideas using sketches, modelling and technical vocabulary. ✓ Select appropriate materials, tools, equipment and manufacturing processes. ✓ Manufacture safely, independently and accurately to dimensions and tolerances. ✓ Monitor and improve work through quality control, testing and refinement. ✓ Evaluate products and manufacturing decisions against a specification using technical evidence. **Unit focus:** ✓ Retrieve and apply knowledge from across the specification. ✓ Improve exam performance through deliberate practice.	**Theory** ❑ Practice Papers ❑ Walking-Talking Exams ❑ Whole-Class Feedback ❑ Personalised Intervention

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Half-term 6	**GCSE Examination**	✓ **GCSE Examination**	❑ **GCSE Examination**