

Subject	Y10 Threshold Knowledge – Autumn/Spring/Summer term	How to support students' learning
Tech – Product	<p>Autumn/Spring/Summer Term</p> <ol style="list-style-type: none"> 1. Understand the properties of materials. 2. Recognise the importance of selecting materials based on their properties. 3. Identify a range of mechanical devices used in design. 4. Understand how levers can be used in design. 5. Understand how structures are developed to respond to different forces and stresses. 6. Use a range of drawing techniques to communicate design ideas. 7. Know how timber-based materials are cut, shaped and formed. 8. Work safely to produce a functional product. 9. Ensure precision and accuracy by working within tolerances. 10. Use applied mathematics to mark out successfully. 11. Know how metal-based materials are cut, shaped and formed. 12. Recognise a variety of energy sources and how these are used in production. 13. Know how a system works using a range of inputs and outputs. 14. Identify a range of designers and the factors which effect design. 15. Understand the role of ergonomics and anthropometrics in design. 16. Create a prototype to test a design idea. 17. Think iteratively to develop design ideas. 18. Understand commercial properties and scales of production. 19. Recognise how a finish can be used to improve a materials property. 20. Understand the environmental, social and economic factors that affect design. 	<ul style="list-style-type: none"> • Physical and working properties - Material categories and properties - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize. • https://www.technologystudent.com/designpro/matintro1.htm • Types of motion - Mechanical devices - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize. • https://youtu.be/fzljPiPy9nw?si=SoCYjQQYrTVeFUdq • https://youtu.be/MIMc2qxlffy?si=YEo7KkLl1QCon2_d • Hand drawing techniques GCSE DT. • Timbers - Timber-based materials - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize. • Design and Technology - Health and Safety - BBC Bitesize. • Tolerances - Design & Technology: AQA GCSE. • https://youtu.be/6tZSWFRFFA?si=jLW-dKThiaLxtoa9 • Metal-based materials - Metal-based materials - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize. • Energy generation and storage GCSE DT - The pros and cons of renewables and non-renewables. • Systems - Systems approach to designing - AQA - GCSE Design and

		<p>Technology Revision - AQA - BBC Bitesize.</p> <ul style="list-style-type: none"> • https://youtu.be/r4lzmUbYX4A?si=VWpYu6UajHRmBljb • https://youtu.be/QsSIV4H5cDM • Developing prototypes - Designing - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize. • Iterative design - Designing - AQA - GCSE Design and Technology Revision - AQA - BBC Bitesize. • Scales of Production and Quality Control – GCSE Design and Technology AQA Revision – Study Rocket. • Key factors designers need to consider - Environmental, social and economic challenges - Edexcel - GCSE Design and Technology Revision - Edexcel - BBC Bitesize. • Key factors designers need to consider - Environmental, social and economic challenges - Edexcel - GCSE Design and Technology Revision - Edexcel - BBC Bitesize.
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