Design & Technology – Engineering Curriculum Long Term Planning

		Term 1	Term 2	Term 3
Year 10	Big Idea	Skills Project – Dice Project/Bottle opener Unit 1 – Manufacturing Engineered Products Unit 3 – Solving Engineered Products	Unit 1 – Manufacturing Engineered Products Unit 3 – Solving engineered Products	Unit 3 – Solving engineered Products
	Key Knowledge and skills	**HT1 - Skills Processes** Measuring & marking Cutting & Shaping Joining & Finishing **HT2 - Unit 1** 1.1 Understanding engineering drawings 1.2 Planning operations **Unit 3** **One theory lesson a week** 3.1.1 describing engineering developments 3.1.2 explaining the effects of engineering achievements 3.1.3 explaining how environmental issues affect engineering applications.	**HT3 & 4 - Unit 1** 1.3 Using engineering tools and equipment 1.4 Implementing engineering processes **Unit 3** **One theory lesson a week** 3.2.1 understanding materials, their properties, and their selections for specific purposes 3.2.2 describing properties required of materials for engineering products 3.2.3 explaining how materials are tested for properties. 3.3.1 describing engineering processes 3.3.2 describing applications of engineering processes 3.3.3 safe working practices.	**Unit 3** 3.4.1 using mathematical techniques for solving engineering problems 3.4.2 understanding and producing engineering drawings.
	End Point	End of unit assessment engineering achievements Skills Processes assessed on outcome of product produced. Unit 1 – Written report analysing and understanding working drawings released by the exam board.	End of unit test Materials and properties Unit 1 – Manufacture of engineered product released by exam board. Written report analysing and understanding materials, processes, H&S involved during manufacture of parts. Mock Exam – Focus on topics covered	End of unit assessment on communicating as an engineer. CAD – drawing of manufactured product from unit 1.
Year	Big Idea	Unit 2 – Designing Engineered Products Unit 3 - – Solving engineered Products	Unit 2 – Designing Engineered Products Exam Revision	Unit 1 – Teacher to mark and standardise. Centre marks to be inputted to exam board. Exam Revision

	Key Knowledge and skills	HT1 Unit 2 – Understanding function and meeting requirements 2.1.1 primary features of the given engineered product 2.1.2 identifying features of other engineered products 2.1.3 function of the proposed solution. HT1 & 2 Proposing Design Ideas 2.2.1 generating a range of engineered solutions 2.2.2 developing ideas through to a conclusion 2.2.3 communicating design ideas. **One theory lessons a week** Recap knowledge from year 10 – 1. engineering achievements & 2. materials/properties	HT3 - Unit 2 – Communicating as an Engineer 2.3.1 producing an engineering specification 2.3.2 drawing an engineering design solution that adheres to recognised standards. Unit 2 - Solving applied engineering problems 2.4.1 using mathematical techniques for solving applied engineering problems 2.4.2 justifying suitable materials for use in the final engineered solution 2.4.3 justifying suitable processes for manufacturing the final engineered solution. **One theory lesson a week** Recap knowledge from year 10 – 3. Planning, equipment& processes 4. communicating as an engineers HT4 – Exam Revision	Recap all knowledge learnt in YR10 1. Engineering achievements 2. Materials & Properties 3. Planning, equipment & processes 4. Using mathematical techniques 5. Communicating as engineers
	End Point	Unit 2 – Written report understanding how engineered products are adapted and to redesign an element of the engineered product from unit 1. Mock Exam	Unit 2 – Written report understanding how engineered products are adapted and to redesign an element of the engineered product from unit 1 To be completed by Feb half-term Mark Unit 2 – HT3	Unit 2 – Centre marks to be submitted to the examination board Final Examination in May 27